

## \* NOTICES \*

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Bibliography.

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**Summary.**

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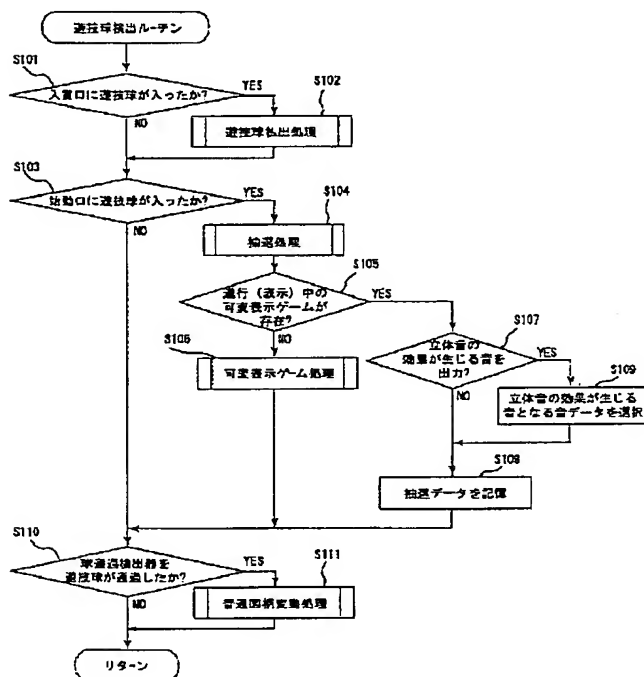
(57) [Abstract]

[Technical problem] When you raise the degree of expectation about the whereabouts of a game, and the degree of excitement and a game is becoming it a great success, without being able to give a game person the presence by sound and making him memorize a monotonous feeling and the malaise, uplift a game person's feeling of fullness and feeling of achievement, aim at fast improvement in interest, and offer the game machine which can perform a game over a long time, without sensing tiredness.

[Means for Solution] when the suspended adjustable display game is started continuously, the reliability of great success and/or the reliability of reach are announced beforehand by outputting the sound which the effect of a binaural sound

makes over the period of the above-mentioned adjustable display game of multiple times — the game machine characterized by things

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#### CLAIMS

[Claim(s)]

[Claim 1] It is prepared in a game board and has the display as which the screen picture which shows the adjustable display game concerning a game person's profits

is displayed, and the loudspeaker which outputs the sound according to the game situation. by the aforementioned loudspeaker It is possible to output the sound which the effect of a binaural sound makes. the aforementioned adjustable display game After the change display of two or more change patterns is started, while two or more aforementioned change patterns are the games which even make it 1 time to be indicated by halt When it is the game which a great success state generates when a halt indication of two or more aforementioned change patterns is given in a predetermined combination and a game sphere goes into a starting mouth into the aforementioned adjustable display game of 1 While the aforementioned adjustable display game of the number of times according to the number of the game spheres included in the aforementioned starting mouth is suspended When the aforementioned adjustable display game which is the game machine with which the aforementioned adjustable display game of the suspended number of times is started continuously, and was suspended is continuously started after the aforementioned adjustable display game of 1 is completed, the reliability of great success and/or the reliability of reach are announced beforehand by outputting the sound which the effect of the aforementioned binaural sound makes over the period of the aforementioned adjustable display game of multiple times — the game machine characterized by things

[Claim 2] It is prepared in a game board and the game situation developed on the game board concerned is embraced. suitably The display as which the screen picture which consists of a picture which combined a dynamic image, a static picture image, or these is displayed, It has the loudspeaker which outputs the sound according to the game situation, and the control section which transmits transmission of the electronic data to the aforementioned display, and the correspondence number to the aforementioned loudspeaker at least. by the aforementioned loudspeaker It is possible to output the sound which the effect of a binaural sound makes. and the aforementioned screen picture The picture which shows the adjustable display game concerning a game person's profits is included. the aforementioned adjustable display game After the change display of two or more change patterns is started, while two or more aforementioned change patterns are the games which even make it 1 time to be indicated by halt When it is the game which a great success state generates when a halt indication of two or more aforementioned change patterns is given in a predetermined combination and a game sphere goes into a starting mouth into the aforementioned adjustable display game of 1 While the aforementioned adjustable display game of the number of times according to the number of the game spheres included in the aforementioned starting mouth is suspended When the aforementioned adjustable display game which is the game machine with which the aforementioned adjustable display game of the suspended number of times is started continuously, and was suspended is continuously started after the aforementioned adjustable display game of 1 is completed, the reliability of great success and/or the reliability of reach are announced beforehand by outputting the sound which the

effect of the aforementioned binaural sound makes over the period of the aforementioned adjustable display game of multiple times — the game machine characterized by things

[Claim 3] generating the aforementioned virtual source over the period of the aforementioned adjustable display game of multiple times, when the aforementioned adjustable display game which the sound which the effect of the aforementioned binaural sound makes is sound which generates a virtual source, and was suspended is started continuously — or the claim 1 which announces beforehand the reliability of great success, and/or the reliability of reach by moving the aforementioned virtual source which made it generate or a game machine given in 2

[Claim 4] The aforementioned loudspeaker is a game machine given in any 1 of the claims 1-3 which are parametric loudspeakers.

[Claim 5] It is prepared in a game board and the game situation developed on the game board concerned is embraced. suitably The display as which the screen picture which consists of a picture which combined a dynamic image, a static picture image, or these is displayed, It has the loudspeaker which outputs the sound according to the game situation, and the control section which transmits transmission of the electronic data to the aforementioned display, and the correspondence number to the aforementioned loudspeaker at least. by the aforementioned loudspeaker It is possible to output the sound which the effect of a binaural sound makes. and the aforementioned screen picture The picture which shows the adjustable display game concerning a game person's profits is included. the aforementioned adjustable display game After the change display of two or more change patterns is started, while two or more aforementioned change patterns are the games which even make it 1 time to be indicated by halt When it is the game which a great success state generates when a halt indication of two or more aforementioned change patterns is given in a predetermined combination and a game sphere goes into a starting mouth into the aforementioned adjustable display game of 1 While the aforementioned adjustable display game of the number of times according to the number of the game spheres included in the aforementioned starting mouth is suspended When the aforementioned adjustable display game which is the production expression method of a game machine that the aforementioned adjustable display game of the suspended number of times is started continuously, and was suspended is continuously started after the aforementioned adjustable display game of 1 is completed, the production expression method which is the game machine characterized by announcing beforehand the reliability of great success, and/or the reliability of reach by outputting the sound which the effect of the aforementioned binaural sound makes over the period of the aforementioned adjustable display game of multiple times

[Claim 6] While displaying the picture which shows a game machine or its part to each terminal, it is the server to which the sound according to the game situation is made to output. And it is the server which can perform control to which the sound

which the effect of a binaural sound makes to each aforementioned terminal is made to output. When a display picture including the screen picture which shows the adjustable display game concerning a game person's profits, the game sphere picture equivalent to a game sphere, and the aforementioned game sphere picture lap with the picture, while judging that the game sphere picture entered in the picture The starting mouth picture which makes 1 time of an adjustable display game start by judging that one game sphere picture entered is displayed. further the aforementioned adjustable display game When it judges that it is the game which makes 1 time the period until it indicates two or more aforementioned change patterns by halt, and the game sphere picture entered into the aforementioned adjustable display game of 1 at the aforementioned starting mouth picture after making the change display of two or more aforementioned change patterns start, While making the aforementioned adjustable display game of the number of times according to the number of the game sphere pictures included in the aforementioned starting mouth picture suspend After terminating the aforementioned adjustable display game of 1, while performing control which makes the aforementioned adjustable display game of the number of times made to suspend start continuously to each aforementioned terminal By making the sound which the effect of the aforementioned binaural sound makes output over the period of the aforementioned adjustable display game of multiple times, when making the aforementioned adjustable display game made to suspend start continuously The server characterized by performing control to which the reliability of great success and/or the reliability of reach are made to announce beforehand to each aforementioned terminal.

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**DETAILED DESCRIPTION**

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[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to the production expression method and server of game machines, such as pachinko game equipment, and a game machine.

[0002]

[Description of the Prior Art] Since the game person who plays a pachinko game is not bored, in order to make the game state grasp, pachinko game equipment is equipped with the display which has CRT, a liquid crystal display monitor, etc. In order to excite the interest over a game person's game, while a change indication of this change pattern is usually given in this display in the identification-information picture field in which the identification-information picture which consists of a change pattern which has two or more identification information which consists of a numeric value etc. is displayed (the inside of an adjustable display game), production expression which displays background images, such as an animation which has fixed narrativeness in the production picture field in which a production picture is displayed, is carrying out. Generally, the voice which the sound which is in the middle of expansion of a tale, and is made, a character, etc. generate is tintured with importance, so that it will become high, if the story nature becomes high in the animation which has such narrativeness. For this reason, the device made into the tale which has presence more is made by making such sound output from the loudspeaker in which it was prepared by the game machine.

[0003] Moreover, the above-mentioned adjustable display game is a game which imitated the game made in a slot machine. With the combination of the pattern of a change pattern in which indicated by change two or more change patterns displayed on the identification information picture field of the above-mentioned display, and stopped these change patterns one by one to predetermined timing, and a halt indication of all the change patterns was given It is a game for shifting to a great success state or a blank state, and these change displays and halt displays of a change pattern are performed as one distance. [ two or more ] In addition, one distance after the change display of two or more of these change patterns is started until it is indicated by halt is considered as 1 time of an adjustable display game.

[0004] One game sphere hammered out on the game board by usually operating the discharge handle prepared in pachinko game equipment such an adjustable display game When it is the game performed once in response to the fact that it went into the starting mouth prepared in the game board and the adjustable display game of 1 is performed If a game sphere goes into a starting mouth, after the adjustable display game which should be started when the game sphere entered will be suspended and the adjustable display game of 1 will be completed, the suspended adjustable display game will be performed continuously.

[0005] For example, if two game spheres go into a starting mouth when the adjustable display game A is performed When the suspended adjustable display game B is performed and the adjustable display game B is further performed after the adjustable display games B and C which should be started when two game spheres

entered are suspended and the adjustable display game A is completed. If one game sphere enters, after the adjustable display game D which should be started when one game sphere entered will be suspended and the adjustable display game B will be completed, the adjustable display game C will be performed and the adjustable display game D will be performed after that.

[0006] Moreover, as a result of the above-mentioned adjustable display game, a halt indication of two or more change patterns is given in a predetermined combination, and if a great success state occurs, a dividend advantageous to a game person will be obtained. For this reason, in the display of pachinko game equipment, production on which the picture which announces beforehand the reliability of the reach which may develop into the reliability of great success and/or great success is displayed is performed, or the voice which announces beforehand the reliability of great success and/or the reliability of reach from the above-mentioned loudspeaker is outputted. While a game person swells a breast to the degree of expectation by such production and an audio output as a great success state and a reach state occur, interest will be increasingly aroused to a game.

[0007] As production which announces beforehand the reliability of such great success, and/or the reliability of reach for example, in accordance with expansion of a tale, as a part of tale, make the preliminary announcement character picture which announces beforehand the reliability of great success, and/or the reliability of reach appear temporarily, or There is a method which there is the method of changing temporarily, and it being sufficient for and carrying out screen pictures, such as a background image and a change pattern, and announces beforehand the reliability of the above-mentioned great success and/or the reliability of reach, or it is made to generate temporarily, and it is sufficient for and carries out voice, such as a character, etc. as an audio output, for example.

[0008] Usually, the production which announces beforehand the reliability of great success which was mentioned above, and/or the reliability of reach and an audio output. When the reliability of the great success about the adjustable display game under execution (display) and/or the reliability of reach are announced beforehand and two or more adjustable display games are suspended, according to the example mentioned above. When the adjustable display game A is performed and the adjustable display games B and C are suspended, For example, the production which announces beforehand the reliability of the great success about the adjustable display game C and/or the reliability of reach, and the audio output were what is not made in the adjustable display games A and B, and is made in the adjustable display game C.

[0009] However, since the production which announces beforehand the reliability of the great success made by doing in this way and/or the reliability of reach, and the audio output were what is made temporarily, the game person was what has a possibility of overlooking the above-mentioned production or failing to hear the output of the above-mentioned voice, and is inferior to certainty.



[0010] Then, in the case of the example mentioned above, there are some to which the work is carried out so that a game person may not overlook the above-mentioned production by performing temporarily production which announces beforehand the reliability of the great success about the adjustable display game C, and/or the reliability of reach also in the adjustable display games A and B.

[0011] However, the production made in each adjustable display game even if it is the case where do in this way and the reliability of great success and/or the reliability of reach are announced beforehand Simply [ method / same each time ], even if it is the case where carry out in single shot and production which announces beforehand the reliability of the above-mentioned great success and/or the reliability of reach is performed, without having relevance between each adjustable display game Since it was not what a great success state and a reach state surely generate, the game person who will look at the production which announces beforehand the reliability of the great success same each time and/or the reliability of reach It was what does not serve as the cause by which memorize a monotonous feeling and a feeling of fatigue, the degree of expectation about the whereabouts of a game and the degree of excitement decrease, and a game person is spoiled on the contrary.

[0012] Furthermore, although a possibility might overlook the production a game person warns the reliability of great success and/or the reliability of reach to be became low when production which announces beforehand the reliability of great success and/or the reliability of reach by the method mentioned above was performed, since the above-mentioned production was what is temporarily made in an adjustable display game, it was the thing it is it hard to say that a game person may overlook the above-mentioned preliminary announcement character picture, and it excels to certainty too. For this reason, the game person always has to continue gazing at the display of pachinko game equipment, was tired, and also had the problem that it became difficult to perform a game over a long time noting that he would not overlook the production which announces beforehand the reliability of great success, and/or the reliability of reach.

[0013]

[Problem(s) to be Solved by the Invention] this invention is made in view of the technical problem mentioned above. the purpose When the degree of expectation about the whereabouts of a game and the degree of excitement are raised and a game is becoming it a great success, without being able to give a game person the presence by sound and making him memorize a monotonous feeling and the malaise It is in offering the production expression method and server of a game machine and a game machine which can perform a game over a long time, without being able to uplift a game person's feeling of fullness and feeling of achievement, being able to aim at fast improvement in interest, and sensing tiredness.

[0014]

[Means for Solving the Problem] In order to attain the above purposes, this

invention is characterized by announcing beforehand the reliability of great success, and/or the reliability of reach by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times, when the suspended adjustable display game is started continuously.

[0015] More specifically, this invention offers the following.

It is prepared in a game board and has the display as which the screen picture which shows the adjustable display game concerning a game person's profits is displayed, and the loudspeaker which outputs the sound according to the game situation. (1) By the above-mentioned loudspeaker It is possible to output the sound which the effect of a binaural sound makes. the above-mentioned adjustable display game After the change display of two or more change patterns is started, while two or more above-mentioned change patterns are the games which even make it 1 time to be indicated by halt When it is the game which a great success state generates when a halt indication of two or more above-mentioned change patterns is given in a predetermined combination and a game sphere goes into a starting mouth into the above-mentioned adjustable display game of 1 While the above-mentioned adjustable display game of the number of times according to the number of the game spheres included in the above-mentioned starting mouth is suspended When the above-mentioned adjustable display game which is the game machine with which the aforementioned adjustable display game of the suspended number of times is started continuously, and was suspended is continuously started after the above-mentioned adjustable display game of 1 is completed, It is characterized by announcing beforehand the reliability of great success, and/or the reliability of reach by outputting the sound which the effect of the above-mentioned binaural sound makes over the period of the above-mentioned adjustable display game of multiple times.

[0016] When the suspended adjustable display game is started continuously according to invention of (1), the presence by the binaural sound can be given announcing beforehand the reliability of great success, and/or the reliability of reach to a game person by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times. For example, the adjustable display game B of others [ under / execution of the adjustable display game A of 1 ] In the adjustable display game of 2 times beyond when announcing beforehand the reliability of great success, and/or the reliability of reach about the adjustable display game C which C was suspended and was suspended at the end The voice which announces beforehand the reliability of great success and/or the reliability of reach is set in the adjustable display game A using the sound which the effect of a binaural sound makes. Make it the above-mentioned voice heard in the direction of a long distance, and it is made for the above-mentioned voice to be heard in the adjustable display game B in the place which drew near more, and is made for the above-mentioned voice to be heard immediately near a game person in the adjustable display game C suspended at the end. Thus, by announcing beforehand the reliability of a great success state, and/or

the reliability of a reach state, a game person will memorize presence with which the great success state and the reach state have been approaching themselves gradually from the past game. Consequently, when the degree of expectation about the whereabouts of a game and the degree of excitement are raised and a game is becoming it a great success, without being able to perform a game and making a monotonous feeling and the malaise memorized to a game person, making relevance with the past game maintain, a game person can uplift a game person's feeling of fullness and feeling of achievement, and can aim at fast improvement in interest. [0017] Moreover, since the reliability of a great success state and/or the reliability of a reach state announce beforehand over the period of the above-mentioned adjustable display game of multiple times with the sound which the effect of a binaural sound makes when the suspended adjustable display game is started continuously, a game person can recognize that a great success state and/or a reach state have been approaching certainly, even if it always does not continue gazing at the display of pachinko game equipment. Consequently, a game person can have allowance, can enjoy the tale developed in a production picture, and he can perform a game over a long time, without sensing tiredness while he can look at the change pattern and production picture which are relaxedly displayed on a display. [0018] this invention offers further the following.

It is prepared in a game board and the game situation developed on the game board concerned is embraced. (2) Suitably The display as which the screen picture which consists of a picture which combined a dynamic image, a static picture image, or these is displayed, It has the loudspeaker which outputs the sound according to the game situation, and the control section which transmits transmission of the electronic data to the aforementioned display, and the correspondence number to the above-mentioned loudspeaker at least. by the above-mentioned loudspeaker It is possible to output the sound which the effect of a binaural sound makes. and the above-mentioned screen picture The picture which shows the adjustable display game concerning a game person's profits is included. the above-mentioned adjustable display game After the change display of two or more change patterns is started, while two or more above-mentioned change patterns are the games which even make it 1 time to be indicated by halt When it is the game which a great success state generates when a halt indication of two or more above-mentioned change patterns is given in a predetermined combination and a game sphere goes into a starting mouth into the above-mentioned adjustable display game of 1 While the above-mentioned adjustable display game of the number of times according to the number of the game spheres included in the above-mentioned starting mouth is suspended When the above-mentioned adjustable display game which is the game machine with which the aforementioned adjustable display game of the suspended number of times is started continuously, and was suspended is continuously started after the above-mentioned adjustable display game of 1 is completed, It is characterized by announcing beforehand the reliability of great success, and/or the

reliability of reach by outputting the sound which the effect of the above-mentioned binaural sound makes over the period of the above-mentioned adjustable display game of multiple times.

[0019] When the suspended adjustable display game is started continuously according to invention of (2), the presence by the binaural sound can be given announcing beforehand the reliability of great success, and/or the reliability of reach to a game person by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times. For example, the adjustable display game B of others [ under / execution of the adjustable display game A of 1 ] In the adjustable display game of 2 times beyond when announcing beforehand the reliability of great success, and/or the reliability of reach about the adjustable display game C which C was suspended and was suspended at the end The voice which announces beforehand the reliability of great success and/or the reliability of reach is set in the adjustable display game A using the sound which the effect of a binaural sound makes. Make it the above-mentioned voice heard in the direction of a long distance, and it is made for the above-mentioned voice to be heard in the adjustable display game B in the place which drew near more, and is made for the above-mentioned voice to be heard immediately near a game person in the adjustable display game C suspended at the end. Thus, by announcing beforehand the reliability of a great success state, and/or the reliability of a reach state, a game person will memorize presence with which the great success state and the reach state have been approaching themselves gradually from the past game. Consequently, when the degree of expectation about the whereabouts of a game and the degree of excitement are raised and a game is becoming it a great success, without being able to perform a game and making a monotonous feeling and a feeling of fatigue memorized to a game person, making relevance with the past game maintain, a game person can uplift a game person's feeling of fullness and feeling of achievement, and can aim at fast improvement in interest.

[0020] Moreover, since the reliability of a great success state and/or the reliability of a reach state announce beforehand over the period of the above-mentioned adjustable display game of multiple times with the sound which the effect of a binaural sound makes when the suspended adjustable display game is started continuously, a game person can recognize that a great success state and/or a reach state have been approaching certainly, even if it always does not continue gazing at the display of pachinko game equipment. Consequently, a game person can have allowance, can enjoy the tale developed in a production picture, and he can perform a game over a long time, without sensing tiredness while he can look at the change pattern and production picture which are relaxedly displayed on a display.

[0021] this invention offers further the following.

(3) The sound which is a game machine the above (1) or given in (2), and the effect of the above-mentioned binaural sound makes When the above-mentioned

adjustable display game which generates a virtual source and which is sound and was suspended is started continuously, It is characterized by announcing beforehand the reliability of great success, and/or the reliability of reach over the period of the above-mentioned adjustable display game of multiple times by moving the above-mentioned virtual source which generates the above-mentioned virtual source and which you depended [ virtual source ] especially or made it generate.

[0022] When the suspended adjustable display game is started continuously according to invention of (3), By outputting the sound which generates a virtual source over the period of the above-mentioned adjustable display game of multiple times Or in order to announce beforehand the reliability of great success, and/or the reliability of reach by moving the above-mentioned virtual source which made it generate, While being able to make it recognize firmly that the great success state and the reach state approach and are to a game person, the presence by the virtual source which made it generate can be given. For example, the adjustable display game B of others [ under / execution of the adjustable display game A of 1 ] In the adjustable display game of 2 times beyond when announcing beforehand the reliability of great success, and/or the reliability of reach about the adjustable display game C which C was suspended and was suspended at the end The voice which announces beforehand the reliability of great success and/or the reliability of reach is set in the adjustable display game A using the sound which the effect of a binaural sound makes. Make it the above-mentioned voice heard in the direction of a long distance, and it is made for the above-mentioned voice to be heard in the adjustable display game B in the place which drew near more, and is made for the above-mentioned voice to be heard immediately near a game person in the adjustable display game C suspended at the end. Thus, by generating the voice which announces beforehand the reliability of great success, and/or the reliability of reach in a virtual source, a game person will memorize presence with which the great success state and the reach state have been approaching themselves continuously gradually from the past game. Consequently, a game person can raise further the degree of expectation about the whereabouts of a game, and the degree of excitement, without being able to perform a game and making a monotonous feeling and a feeling of fatigue memorized to a game person, making relevance with the past game maintain. [0023] this invention offers further the following.

(4) The above (1) It is a game machine given in any 1 of - (3), and the above-mentioned loudspeaker is characterized by being a parametric loudspeaker.

[0024] As mentioned above, when the suspended adjustable display game is started continuously, by this invention, the reliability of great success and/or the reliability of reach are announced beforehand to a game person by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times. therefore, in the game machine of 1, if the reliability of great success and/or the reliability of reach are announced beforehand by outputting the sound which the effect of a binaural sound makes, not only the

game person that is performing the game with the game machine of the above 1 but the game person who is the circumference can know a bird clapper in a great success state or the reach state in the near future However, when it does not change into a great success state or a reach state after that, the game person who is performing the game with the game machine of the above 1 having that pointed out from the circumference, and carrying out a shameful thought is also considered. [0025] However, since according to invention of (4) sound to tell a game person can be put and emitted to a strong directive ultrasonic wave by the above-mentioned parametric loudspeaker and sound can be centralized on a predetermined part like a spotlight, it can prevent that the sound outputted from the game machine of the above 1 will be heard by other game persons. Consequently, when the suspended adjustable display game is continuously started in the game machine of the above 1, Over the period of the above-mentioned adjustable display game of multiple times with the sound which the effect of a binaural sound makes Even if the reliability of great success and/or the reliability of reach are announced beforehand, other game persons who are in the circumference of the game machine of the above 1 since the sound which the effect of the above-mentioned binaural sound makes cannot be heard, in the game machine of the above 1, it does not know beforehand that the reliability which is the reliability and/or reach of great success will be announced beforehand When the suspended adjustable display game is started continuously, over the period of the above-mentioned adjustable display game of multiple times with therefore, the sound which the effect of a binaural sound makes After the reliability of great success and/or the reliability of reach are announced beforehand, even if it is the case where it does not change into a great success state or a reach state, the game person who is performing the game with the game machine of the above 1 can be concentrated on a game in comfort, without carrying out a shameful thought.

[0026] this invention offers further the following.

It is prepared in a game board and the game situation developed on the game board concerned is embraced. (5) Suitably The display as which the screen picture which consists of a picture which combined a dynamic image, a static picture image, or these is displayed, It has the loudspeaker which outputs the sound according to the game situation, and the control section which transmits transmission of the electronic data to the above-mentioned display, and the correspondence number to the above-mentioned loudspeaker at least. by the above-mentioned loudspeaker It is possible to output the sound which the effect of a binaural sound makes. and the above-mentioned screen picture The picture which shows the adjustable display game concerning a game person's profits is included. the above-mentioned adjustable display game After the change display of two or more change patterns is started, while two or more above-mentioned change patterns are the games which even make it 1 time to be indicated by halt When it is the game which a great success state generates when a halt indication of two or more above-mentioned

change patterns is given in a predetermined combination and a game sphere goes into a starting mouth into the above-mentioned adjustable display game of 1 While the above-mentioned adjustable display game of the number of times according to the number of the game spheres included in the above-mentioned starting mouth is suspended When the above-mentioned adjustable display game which is the production expression method of a game machine that the above-mentioned adjustable display game of the suspended number of times is started continuously, and was suspended is continuously started after the above-mentioned adjustable display game of 1 is completed, It is characterized by announcing beforehand the reliability of great success, and/or the reliability of reach by outputting the sound which the effect of the above-mentioned binaural sound makes over the period of the above-mentioned adjustable display game of multiple times.

[0027] When the suspended adjustable display game is started continuously according to invention of (5), the presence by the binaural sound can be given announcing beforehand the reliability of great success, and/or the reliability of reach to a game person by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times. For example, the adjustable display game B of others [ under / execution of the adjustable display game A of 1 ] In the adjustable display game of 2 times beyond when announcing beforehand the reliability of great success, and/or the reliability of reach about the adjustable display game C which C was suspended and was suspended at the end The voice which announces beforehand the reliability of great success and/or the reliability of reach is set in the adjustable display game A using the sound which the effect of a binaural sound makes. Make it the above-mentioned voice heard in the direction of a long distance, and it is made for the above-mentioned voice to be heard in the adjustable display game B in the place which drew near more, and is made for the above-mentioned voice to be heard immediately near a game person in the adjustable display game C suspended at the end. Thus, by announcing beforehand the reliability of a great success state, and/or the reliability of a reach state, a game person will memorize presence with which the great success state and the reach state have been approaching themselves gradually from the past game. Consequently, a game can be performed while a game person makes relevance with the past game maintain. When the degree of expectation about the whereabouts of a game and the degree of excitement are raised and a game is becoming it a great success, without making a monotonous feeling and a feeling of fatigue memorized to a game person, a game person's feeling of fullness and feeling of achievement can be uplifted, and the production expression method of the game machine which can aim at fast improvement in interest can be offered.

[0028] Moreover, since the reliability of a great success state and/or the reliability of a reach state announce beforehand over the period of the above-mentioned adjustable display game of multiple times with the sound which the effect of a

binaural sound makes when the suspended adjustable display game is started continuously, a game person can recognize that a great success state and/or a reach state have been approaching certainly, even if it always does not continue gazing at the display of pachinko game equipment. Consequently, a game person can have allowance, can enjoy the tale developed in a production picture, and he can offer the production expression method of the game machine which can perform a game over a long time, without sensing tiredness while he can look at the change pattern and production picture which are relaxedly displayed on a display.

[0029] this invention offers further the following.

(6) While displaying the picture which shows a game machine or its part to each terminal as a screen picture It is the server to which the sound according to the game situation is made to output, and is the server which can perform control to which the sound which the effect of a binaural sound makes to each above-mentioned terminal is made to output. When a display picture including the picture which shows the adjustable display game concerning a game person's profits, the game sphere picture equivalent to a game sphere, and the above-mentioned game sphere picture lap with the picture, while judging that the game sphere picture entered in the picture The starting mouth picture which makes 1 time of an adjustable display game start by judging that one game sphere picture entered is displayed as the above-mentioned screen picture. further the above-mentioned adjustable display game When it judges that it is the game which makes 1 time the period until it indicates two or more above-mentioned change patterns by halt, and the game sphere picture entered into the above-mentioned adjustable display game of 1 at the above-mentioned starting mouth picture after making the change display of two or more above-mentioned change patterns start, While making the above-mentioned adjustable display game of the number of times according to the number of the game sphere pictures included in the above-mentioned starting mouth picture suspend After terminating the above-mentioned adjustable display game of 1, while performing control which makes the above-mentioned adjustable display game of the number of times made to suspend start continuously to each aforementioned terminal By making the sound which the effect of the above-mentioned binaural sound makes output over the period of the above-mentioned adjustable display game of multiple times, when making the above-mentioned adjustable display game made to suspend start continuously It is characterized by performing control to which the reliability of great success and/or the reliability of reach are made to announce beforehand to each above-mentioned terminal.

[0030] When the suspended adjustable display game is started continuously according to invention of (6), the presence by the binaural sound can be given announcing beforehand the reliability of great success, and/or the reliability of reach to a game person by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times. For example, the adjustable display game B of others [ under / execution of



the adjustable display game A of 1 ] In the adjustable display game of 2 times beyond when announcing beforehand the reliability of great success, and/or the reliability of reach about the adjustable display game C which C was suspended and was suspended at the end The voice which announces beforehand the reliability of great success and/or the reliability of reach is set in the adjustable display game A using the sound which the effect of a binaural sound makes. Make it the above-mentioned voice heard in the direction of a long distance, and it is made for the above-mentioned voice to be heard in the adjustable display game B in the place which drew near more, and is made for the above-mentioned voice to be heard immediately near a game person in the adjustable display game C suspended at the end. Thus, by announcing beforehand the reliability of a great success state, and/or the reliability of a reach state, a game person will memorize presence with which the great success state and the reach state have been approaching themselves gradually from the past game. Consequently, when the degree of expectation about the whereabouts of a game and the degree of excitement are raised and a game is becoming it a great success, without being able to perform a game and making a monotonous feeling and the malaise memorized to a game person, making relevance with the past game maintain, a game person can uplift a game person's feeling of fullness and feeling of achievement, and can offer the server which can aim at fast improvement in interest.

[0031] Moreover, since the reliability of a great success state and/or the reliability of a reach state announce beforehand over the period of the above-mentioned adjustable display game of multiple times with the sound which the effect of a binaural sound makes when the suspended adjustable display game is started continuously, a game person can recognize that a great success state and/or a reach state have been approaching certainly, even if it always does not continue gazing at the display of pachinko game equipment. Consequently, a game person can have allowance, can enjoy the tale developed in a production picture, and he can offer the server which can perform a game over a long time, without sensing tiredness while he can look at the change pattern and production picture which are relaxedly displayed on a display.

[0032] In a [definition-of-term etc. book] specification, "identification information" means identifiable information by visual senses, such as a character, a sign, a pattern, or a pattern. The case where "a change display" changes from the pattern "7" which is one identification information when identification information changes one by one to the pattern "8" which are other identification information, In the case while one identification information had been displayed in the viewing area which can display identification information besides in the case of changing to other patterns "\*" from the pattern "9", so that the identification information may move and may be displayed For example, it is a concept including the case where it moves one pattern "7" being displayed in a viewing area etc.

[0033] "The sound which the effect of a binaural sound makes" means the sound in

which depth and a breadth are impressed to a game person. the sound which the effect of such a binaural sound makes can obtain by outputting sound based on the correspondence number which performed processing, after performing the processing to which the correlation coefficient which is the sound pressure of the sound in the entrance of both the game person's ears changes, the processing which add the correspondence number which generates reverberation sound as opposed to the sound data used as the correspondence number which generates sound, and this correspondence number In addition, in this specification, we suppose that sound data mean the electronic data memorized by the storages (for example, ROM etc.) with which the game machine etc. was equipped, and a correspondence number decides to say the electrical signal inputted into a loudspeaker.

[0034] Moreover, although it is possible to output the sound which the effect of a binaural sound usually makes by using two pieces or three loudspeakers or more (circuit) in case sound is outputted based on the correspondence number which performed processing which was mentioned above, or sound data Also in the game machine of this invention, and the terminal (henceforth a terminal etc.) controlled by the server of this invention, it is the same, and the sound which the effect of a binaural sound makes can be outputted by using two pieces or three loudspeakers or more (circuit). Moreover, it is not necessary to necessarily use two pieces or three loudspeakers or more, and you may be one piece in this invention. Moreover, it is not especially limited about the position in which the above-mentioned loudspeaker is prepared. About the position and the number of the above-mentioned loudspeaker, it is possible to set up suitably so that the effect of a binaural sound may fully be acquired with the sound outputted from a loudspeaker.

[0035] Moreover, when the adjustable display game which did not necessarily need to output the sound which the effect of a binaural sound always makes in the game machine of this invention, for example, was suspended is started continuously, Only when announcing beforehand the reliability of the great success about an adjustable display game by which the hold was carried out [ above-mentioned ], and/or the reliability of reach over the period of the above-mentioned adjustable display game of multiple times, it is good also as outputting the sound which the effect of the above-mentioned binaural sound makes.

[0036] It says not being started until that the adjustable display game which should be started when a game sphere usually goes [ "the adjustable display game of the number of times according to the number of the game spheres included in the starting mouth is suspended" and ] into a starting mouth will be started in the future originates in other adjustable display games already being started although determined and an adjustable display game besides the above is completed. Namely, although the lottery which determines whether be becoming it a great success will be performed and an adjustable display game will usually be started based on the lottery result if a game sphere goes into a starting mouth If a game sphere goes into a starting mouth when other adjustable display games are already started After the

lottery which determines whether a great success state occurs is performed, the lottery result is memorized by the storages (for example, RAM etc.) formed in the game inside of a plane, and the corresponding adjustable display game is not immediately started. Then, an end of an adjustable display game besides the above starts an adjustable display game based on the lottery result memorized by the above-mentioned storage etc.

[0037] Saying "the sound which the effect of a binaural sound makes is outputted over the period of the adjustable display game of multiple times" When announcing beforehand the reliability of the great success about the adjustable display game of one, and/or the reliability of reach among two or more suspended adjustable display games, It says outputting the sound which the effect of a binaural sound makes during the period when the adjustable display game of the above 1 is performed out of the period when other adjustable display games before the adjustable display game of the above 1 is started are performed. therefore — the period when it is not limited especially in and the adjustable display game besides the above is performed if the timing which starts the output of the sound which the effect of a binaural sound makes is during the period when the adjustable display game besides the above is performed — being concerned — others — the time of an adjustable display game being started is included moreover, if it is during the period when the adjustable display game of the above 1 is performed, the timing which ends the output of the sound which the effect of a binaural sound makes is not limited especially, and when the adjustable display game concerned of 1 is started, it includes the time of ending in the period when the adjustable display game of the above 1 is performed moreover, especially the number of times that is the adjustable display game performed between the adjustable display game (other adjustable display games mentioned above) which starts the output of the sound which the effect of a binaural sound makes, and the adjustable display game (other adjustable display games mentioned above) which ends the output of the sound which the effect of a binaural sound makes is not limited For example, during execution of the adjustable display game of 1, 3 times of adjustable display games are suspended because a game sphere goes into a three-piece starting mouth. When the reliability of great success and/or the reliability of reach are announced beforehand about the adjustable display game suspended for the 3rd, pass the adjustable display game suspended for the 1st and the 2nd from the time of the 3rd adjustable display game being suspended into the above-mentioned adjustable display game of 1 in the sound which the effect of the above-mentioned binaural sound makes — the adjustable display game whose number is three is performed, and it outputs until it becomes predetermined timing Moreover, although the sound which the effect of the above-mentioned binaural sound makes is outputted when each adjustable display game is performed, the sound which the effect of the binaural sound in each adjustable display game makes does not need to be the same, may change with each adjustable display games, and may change into an adjustable display game.

[0038] "Reliability of great success" means possibility of agreeing with the combination of the pattern from which the combination of the pattern by which a halt indication of two or more change patterns was given will be in a great success state. Even if it is the case where the sound which the effect of the binaural sound which follows, for example, announces the reliability of great success beforehand makes is outputted, great success may not occur. "Reliability of reach" means possibility that all the patterns of the change pattern by which it was indicated by halt will agree, when a halt indication of the change patterns other than the change pattern by which it is indicated by halt among two or more change patterns at the last is given. Therefore, even if it is the case where the sound which the effect of the binaural sound which announces the reliability of reach beforehand makes like the reliability of great success mentioned above is outputted, a reach state may not occur. On the other hand, even if it is the case where the sound which the effect of the binaural sound which announces beforehand the reliability of great success and/or the reliability of reach conversely makes is not outputted, a great success state may occur or a reach state may occur. However, when the sound which the effect of the binaural sound which announces beforehand the reliability of great success and/or the reliability of reach makes is outputted, compared with the case where the sound which the effect of the above-mentioned binaural sound makes is not outputted, a great success state and/or a reach state occur in high probability – things are desirable it is because it will be expected that the sound which the effect of a binaural sound makes is outputted, and a game person is because a game person can fully acquire the effect which is this invention by expecting that the sound which the effect of a binaural sound makes is outputted furthermore, you may be sound which is different in the sound which the effect of the binaural sound which announces beforehand the reliability of the above-mentioned great success makes, and the sound which the effect of the binaural sound which announces the reliability of the above-mentioned reach beforehand makes, and may be the same sound

[0039] The above-mentioned loudspeaker produced in a game person's feeling means the sound source of the imagination which exists in a different position with the sound to which a "virtual source" is outputted from the loudspeaker with which the game machine etc. was equipped. Therefore, it is sensed that the above-mentioned virtual source generated on right-hand side in spite of having outputted the loudspeaker with which the game machine which a game person has in a transverse plane when the sound which generates a virtual source by the loudspeaker with which the game machine etc. was equipped when the game person was located in transverse planes, such as a game machine, is outputted and a virtual source is generated on the right-hand side of a game person was equipped to sound to sound is outputted. That is, it means that the above-mentioned virtual source had occurred in a different position from the above-mentioned loudspeaker in a game person's feeling.

[0040] outputting the sound which generates a virtual source over the period of the above-mentioned adjustable display game of multiple times, when the adjustable display game which the sound which the effect of the above-mentioned binaural sound makes is sound which generates a virtual source in the game machine of this invention, and was suspended is started continuously — or it is desirable to announce beforehand the reliability of great success and/or Leach's reliability by moving the above-mentioned virtual source which made it generate While being able to make it recognize firmly that the great success state and the Leach state approach and are to a game person as mentioned above Since the presence by the virtual source which made it generate can be given, a game person It is because the degree of expectation about the whereabouts of a game and the degree of excitement can be raised further, without being able to perform a game and making a monotonous feeling and the malaise memorized to a game person, making relevance with the past game maintain. Hereafter, the above-mentioned virtual source is explained.

[0041] The acoustic wave from a loudspeaker results in the eardrum of both the game person's ears in response to an operation of the transfer system of places, such as an amusement center and space, in which for example, a game person is, and the transfer system by reflection of a game person's head, a concha, a shoulder, etc., diffraction, and resonance. The transfer function of these transfer systems, i.e., the transfer function from a sound source to external auditory meatus, is called head sound transfer function. The above-mentioned head sound transfer function can be acquired with measuring methods, such as an M sequences method and the cross-spectrum method.

[0042] The above-mentioned virtual source can be processed in sound data or a correspondence number, and can make it generate using the head sound transfer function acquired according to the physical relationship of for example, a game person and the loudspeaker with which the game machine etc. was equipped, physical relationship with the virtual source which makes it generate with a game person, etc. by outputting the sound based on these sound data or a correspondence number. It is possible to perform such processing by DSP (Digital Signal Processor) which is a processing unit, for example, it can realize by using an FIR (Finite-duration Impulse Response) filter and filters, such as IIR (Infinite-duration Impulse Response).

[0043] Furthermore, the above-mentioned virtual source will be explained in full detail using drawing 1 -3. Drawing 1 is explanatory drawing shown as compared with the state where the sound outputted by the virtual source to which a listener exists the state where explanatory drawing about a virtual source, i.e., a listener, is hearing the sound outputted by two loudspeakers arranged ahead of this listener in this listener's right rear side is heard.

[0044] First, it is assumed that Listener A is hearing the sound outputted by the virtual source 210 which exists in Listener's A right rear side. The frequency

characteristic of the sound outputted by the virtual source 210 at this time If HL and the head sound transfer function from a virtual source 210 to Listener's A right ear (are set [ for example, / sound pressure level, frequency, etc. ]) to HR for VS and the head sound transfer function from a virtual source 210 to Listener's A left ear The frequency characteristic EL of the sound in near the external ear of Listener's A left ear and the frequency characteristic ER of the sound in near the external ear of a right ear can be expressed with (following 1) and following (2) formula, respectively (refer to drawing 1 ).

$$EL=VS \times HL \dots (1)$$

$$ER=VS \times HR \dots (2)$$

[0045] Next, the case where the sound outputted by the loudspeaker 201 (201a, 201b) is being heard is considered. In addition, loudspeaker 201a is located in the left-hand side ahead of Listener A, and loudspeaker 201b is located in the right-hand side ahead of Listener A. LS and the head sound transfer function from loudspeaker 201a to Listener's A left ear for the frequency characteristic of the sound outputted by loudspeaker 201a LGL, The head sound transfer function from loudspeaker 201b to Listener's A right ear is set to LGR. If RGL and the head sound transfer function from loudspeaker 201b to Listener's A right ear are set to RGR for RS and the head sound transfer function from loudspeaker 201b to Listener's A left ear, the frequency characteristic of the sound outputted by loudspeaker 201b The frequency characteristic EL of the sound in near the external ear of Listener's A left ear and the frequency characteristic ER of the sound in near the external ear of a right ear can be expressed with (following 3) and following (4) formula, respectively (refer to drawing 1 ).

$$EL=LS \times LGL+RS \times RGL \dots (3)$$

$$ER=LS \times LGR+RS \times RGR \dots (4)$$

[0046] (Following 5) and following (6) formula can be obtained about the frequency characteristic LS of the sound outputted by loudspeaker 201a by the above-mentioned (1) - (4) formula, and the frequency characteristic RS of the sound outputted by loudspeaker 201b (refer to drawing 1 ).

$$LS=VS \times (RGL \times HR-RGR \times HL)/XG \dots (5)$$

$$RS=VS \times (-LGL \times HR+LGR \times HL)/XG \dots (6)$$

(However,  $XG=RGL \times LGR-RGR \times LGL$ )

[0047] Moreover, as shown in drawing 1 , when a loudspeaker 201 (201a, 201b) sees from Listener A and is arranged at the bilateral symmetry, let the head sound transfer function, i.e., the head sound transfer function LGL and the head sound transfer function RGR, from a loudspeaker 201 to Listener's A ear of the nearer one be the same head sound transfer function. The same is said of the head sound transfer function to the ear of the one where Listener A is distant from a loudspeaker 201. Therefore, if GN and the head sound transfer function to the ear of the one where Listener A is distant from a loudspeaker 201 are set to GF, the above (5) and (6) formulas can also show the head sound transfer function from a

loudspeaker 201 to Listener's A ear of the nearer one like (following 7) and following (8) formula, respectively.

$$LS=VSx(GFxHR-GNxHL)/(GF2-GN2) \dots (7)$$

$$RS=VSx(-GNxHR+GFxHL)/(GF2-GN2) \dots (8)$$

[0048] Namely, the frequency characteristic VS of the sound outputted by the virtual source 210 is set up. The above (5) and processing using (6) formulas (the above (7) and (8) formulas) are performed to the correspondence number or sound data made to generate the sound of the frequency characteristic VS. The correspondence number or sound data made to generate the sound of the frequency characteristics LS and RS is obtained, and it becomes possible to generate a virtual source 210 by outputting the sound based on the obtained correspondence number or sound data of the frequency characteristics LS and RS from loudspeaker 201a and loudspeaker 201b, respectively.

[0049] However, when a virtual source is generated by the method mentioned above, there is a possibility that a cross talk may occur in the sound which reaches from a left loudspeaker to a right ear, and the sound which reaches from a right loudspeaker to a left ear. When the above-mentioned cross talk occurs, a listener may memorize sense of incongruity in the position of a virtual source. Such a cross talk can suppress the generating by performing processing which negates the above-mentioned cross talk to the correspondence number which generates the sound outputted by the loudspeaker. Next, how to output the sound which generating of the above-mentioned cross talk is suppressed [ sound ] and generates a virtual source is explained.

[0050] Drawing 2 is explanatory drawing shown as compared with the state where the sound outputted by the virtual source to which a listener exists in this listener's right rear side in explanatory drawing about a virtual source, i.e., the state where the listener is hearing the sound outputted from headphone, is heard. The case where Listener A is hearing the sound outputted by headphone 301 (301a, 301b) is considered. In addition, headphone 301a is located in Listener's A left-hand side, and headphone 301b is located in Listener's A right-hand side. If the frequency characteristic of the sound outputted by LP and headphone 301b in the frequency characteristic of the sound outputted by headphone 301a is set to NB, the frequency characteristic EL of sound in near the external ear of Listener's A left ear and the frequency characteristic ER of the sound in a right ear can express RP and the head sound transfer function from headphone 301 (301a, 301b) to Listener's A ear with (following 9) and following (10) formula for it, respectively (refer to drawing 2 ).

$$EL=LPxNB \dots (9)$$

$$ER=RPxNB \dots (10)$$

[0051] (Following 11) and following (12) formula can be obtained about the frequency characteristic LP of the sound outputted by the above (1) and (2) formulas, and the above (9) and (10) formulas by headphone 301a, and the frequency characteristic RP

of the sound outputted by headphone 301b (refer to drawing 2 ).

$$LP=VS \times HL/NB \dots (11)$$

$$RP=VS \times HR/NB \dots (12)$$

[0052] Following (13) and following (14) formula can be obtained about the frequency characteristic LS of the sound outputted by the above (7) and (8) formulas, and the above (11) and (12) formulas by loudspeaker 201a, and the frequency characteristic RS of the sound outputted by loudspeaker 201b (refer to drawing 1 and drawing 2 ).

$$LS=[(NB/GN)/(1-(GF/GN)^2)] \times [LP - (GF/GN)$$

$$\times RP] \dots (13)$$

$$RS=[(NB/GN)/(1-(GF/GN)^2)] \times [RP - (GF/GN)$$

$$\times LP] \dots (14)$$

[0053] Thus, the frequency characteristic VS of the sound outputted by the virtual source 210 is set up. Processing using the above-mentioned (11) – (14) formula is performed to the correspondence number of the frequency characteristic VS. The correspondence number of the frequency characteristics LS and RS is obtained, and it becomes possible to generate a virtual source 210, without generating most cross talks by outputting the sound based on the correspondence number of the obtained frequency characteristics LS and RS from loudspeaker 201a and loudspeaker 201b, respectively. Drawing 3 is explanatory drawing in order to explain explanatory drawing about a virtual source, i.e., process in which processing mentioned above is performed.

[0054] The correspondence number or sound data (frequency characteristic : LP, RP) outputted by headphone 301 can be obtained by preparing beforehand the correspondence number or sound data used as the sound (frequency characteristic : VS) made to output by the virtual source 210, and processing this correspondence number using the filter 401 obtained by the above (11) and (12). Usually, this processing is called binaural conversion. Next, the correspondence number or sound data (frequency characteristic : LS, RS) made to generate the sound outputted by the loudspeaker 201 can be obtained by processing the obtained correspondence number or sound data (frequency characteristic : LP, RP) using the filters 402 and 403 obtained by the above (13) and (14).

[0055] Thus, while outputting the sound of the frequency characteristic LS by loudspeaker 201a based on the obtained correspondence number or sound data, Listener A senses that sound is outputted from the virtual source 210 generated in the right rear side, in spite of outputting sound from the loudspeaker 201 by outputting the sound of the frequency characteristic RS by loudspeaker 201b. In addition, what is necessary is just to prepare the filters 401–403 corresponding to the movement, in order to move the above-mentioned virtual source. moreover, change of the sound which reaches both the ears of the above-mentioned listener according to the movement in consideration of a listener's head moving a little etc. – an amendment – you may prepare the filter which can do things

[0056] In this invention, you may decide to perform the above (5) and processing



using (6) to the sound data memorized by the storages (for example, ROM etc.) of the game inside of a plane, or the correspondence number inputted into a loudspeaker, and may decide to perform processing using above-mentioned (11) – (14). Moreover, you may store in the storages (for example, ROM etc.) of the game inside of a plane beforehand the sound data which performed these processings.

[0057] Moreover, as a loudspeaker which can be used in case a virtual source is generated by method which was mentioned above, a well-known loudspeaker, for example, a cone speaker, a horn loudspeaker, a dome loudspeaker, a capacitor loudspeaker, a ribbon type loudspeaker, an ion type loudspeaker, etc. can be mentioned conventionally.

[0058] A “parametric loudspeaker” is a loudspeaker which sound (acoustic wave of a audio range) to tell a game person is put and outputted [ loudspeaker ] to a strong directive ultrasonic wave, and centralizes sound on a predetermined part like a spotlight, and it is the loudspeaker which generates sound to tell a game person by carrying out self-detection of the outputted ultrasonic wave using the nonlinear interaction of an acoustic wave.

[0059] In addition, as for a loudspeaker, in the game machine of this invention, it is desirable that it is a parametric loudspeaker. it is because it can concentrate on a game in comfort with the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times, without carrying out a shameful thought even if it is the case where a great success state or the Leach state does not occur, after the reliability which is the reliability of great success and/or Leach is announced beforehand, when the suspended adjustable display game is started continuously, as mentioned above Hereafter, the above-mentioned parametric loudspeaker is explained using drawing 4 .

[0060] Drawing 4 (a) is explanatory drawing about a parametric loudspeaker, and drawing 4 (b) is drawing showing typically the frequency spectrum of the nonlinear interaction by the sine wave. Moreover, (c) is drawing showing typically the frequency spectrum of the nonlinear interaction by the amplitude modulation wave.

[0061] As shown in drawing 4 (a), the case where the ultrasonic wave of frequency  $f_1$  and the ultrasonic wave (however,  $f_2 > f_1$ ) of frequency  $f_2$  which are a primary acoustic wave are outputted from the parametric loudspeaker 500 is considered. The frequency spectrum which shows the nonlinear interaction of the sine waves in such a situation comes to be shown in drawing 4 (b). That is, when the ultrasonic wave of frequency  $f_1$  and the ultrasonic wave of frequency  $f_2$  which are a primary acoustic wave carry out nonlinear interference, the sound (chord) of the frequency  $(f_2 + f_1)$  which is a secondary acoustic wave, and the sound (difference tone) of frequency  $(f_2 - f_1)$  are generated (refer to drawing 4 (a) and (b)).

[0062] If the ultrasonic wave of frequency  $f_1$  and the ultrasonic wave of frequency  $f_2$  are outputted from the parametric loudspeaker 500, in a audio range, the sound of frequency  $(f_2 - f_1)$  is generable, so that frequency  $(f_2 - f_1)$  may turn into frequency of a audio range at this time. Moreover, like an ultrasonic wave, since directivity is

strong, the sound of the frequency ( $f_2 - f_1$ ) generated as mentioned above becomes possible to centralize sound on a predetermined part like a spotlight. However, usually, as a parametric loudspeaker is shown in drawing 4 (a) and (b), the ultrasonic wave of different frequency is hardly outputted and it outputs the amplitude modulation wave which is made to modulate the subcarrier of an ultrasonic wave by the modulating signal of a audio range, and is usually obtained.

[0063] Next, the case where an amplitude modulation wave is outputted from a parametric loudspeaker is explained using drawing 4 (c). Usually, the amplitude modulation wave (modulated wave) 501 which is made to modulate a subcarrier by the modulating signal and is obtained contains subcarrier 501a, top wave (upper sideband) 501b, and bottom wave (lower sideband) 501c, as shown in drawing 4 (c).

[0064] If this amplitude modulation wave 501 receives the nonlinear interaction of an acoustic wave, while subcarrier 501a and top wave 501b will carry out nonlinear interference, subcarrier 501a and bottom wave 501c carry out nonlinear interference. Consequently, the modulated wave 502 which is a secondary acoustic wave equivalent to the above-mentioned modulating signal is generable. That is, self-detection of the amplitude modulation wave 501 can be carried out using the nonlinear interaction of an acoustic wave. In this case, since the above-mentioned modulating signal is outputted as a modulated wave 502 which is a secondary acoustic wave as it is, if it chooses the correspondence number of the audio range used as voice, a sound effect, etc. as the above-mentioned modulating signal and chooses an ultrasonic wave as it at the above-mentioned subcarrier, it will become possible to centralize sound on a predetermined part like a spotlight.

[0065] the sound outputted by this parametric loudspeaker in the game machine of this invention equipped with the parametric loudspeaker mentioned above -- the nonlinear interaction of an acoustic wave -- \*\*\*\* -- only in the field to which the part which a secondary acoustic wave generates, and this secondary acoustic wave are transmitted by things, a game person can hear the sound outputted by this parametric loudspeaker At this time, the part which a secondary acoustic wave generates serves as a sound source of the imagination which exists in a different position from the above-mentioned parametric loudspeaker, \*\*\*\*\*, and a virtual source. In addition, it does in this way and, as for the virtual source which made it generate, it is possible by enabling it to change the sense of the above-mentioned parametric loudspeaker etc. to make it move.

[0066]

[Embodiments of the Invention] The example of this invention is explained based on a drawing. In addition, below is equipped with two loudspeakers (loudspeaker which is not a parametric loudspeaker), and suppose that the game machine of this invention which can output the sound which the effect of a binaural sound makes by this loudspeaker is explained. In addition, the above-mentioned game machine shall have memorized the sound data to which processing was beforehand performed by the method mentioned above. Of course, the game machine of this invention is not

limited to such a game machine.

[0067] Drawing 5 is the front view showing the game machine of this invention typically. In addition, in the example explained below, the case where this invention is applied to pachinko game equipment is shown as a suitable example of the game machine concerning this invention.

[0068] The discharge handle 26 and \*\* which were prepared in the right-hand side of the main part frame 12, the game board 14 built into the main part frame 12, the window frame 16 of the main part frame 12 prepared in the front face of the game board 14, the upper pan 20 and the lower pan 22 prepared in the front face of the main part frame 12 with the window frame 16 down side, and the lower pan 22 are arranged at pachinko game equipment 10.

[0069] Moreover, two or more obstacle nails (not shown) are driven into the front face of the game board 14. In addition, it does not consider as composition which drives in a nail, but the game board 14 is fabricated for a resin material, it is good also as composition which implants a metal rod-like structure in the game board 14 of this resin material so that it may project in the front of the game board 14, and this invention can be applied also to pachinko game equipment 10 (party contest machine) which was mentioned above. In addition, in this specification, it is a concept also containing a party contest machine in pachinko game equipment 10.

[0070] Furthermore, the discharge handle 26 is formed free [ rotation ] to the main part frame 12, and the game person can advance the pachinko game by operating the discharge handle 26. The discharge motor 28 is formed in the background of the discharge handle 26. When rotation operation of the discharge handle 26 is done by the game person in the direction of a clockwise rotation, power is supplied to the discharge motor 28 and the game sphere stored by the upper pan 20 is discharged one by one by the game board 14.

[0071] The discharged game sphere is guided at the guide rail 30 prepared on the game board 14, moves to the upper part of the game board 14, and after that, changing the travelling direction by the collision with two or more obstacle nails mentioned above, the game board 14 goes caudad and it falls. Moreover, the loudspeaker 46 (46a, 46b) is arranged, and pachinko game equipment 10 is constituted by the lower pan 22 bottom so that the sound which the effect of a binaural sound makes can be outputted by the loudspeaker 46.

[0072] Drawing 6 is the expansion front view showing the game board 14 typically. In addition, the same sign was given to the component shown in drawing 5 mentioned above, and the corresponding component. Moreover, drawing 6 showed what was omitted about the obstacle nail mentioned above.

[0073] The display 32 which is the display which is mentioned later is formed in the center of abbreviation of the front face of the game board 14. Display 52 is formed in the center of the upper part of this display 32. This display 52 consists of for example, 7 segment drops, and an adjustable indication of the common pattern which is display information is given so that change and a halt may be repeated. The

sphere passage detectors 55a and 55b are formed in the flank of right and left of display 32. This sphere passage detector 55a or 55b usually suspends the change display of a pattern, after the change display of a pattern is usually started and predetermined carries out time progress in the display 52 mentioned above, when it detects that the game sphere passed through the near. Usually, a pattern is this information that consists of a number, a sign, etc., for example, are signs, such as numbers from "0" to "9", and "\*." When a pattern usually turns into this predetermined pattern, "7", it stops and it is displayed, [ for example, ] Current is supplied to the solenoid 57 (not shown) for driving the movable pieces 58a and 58b prepared in the both sides of right and left of the starting mouth 44 mentioned later, the movable pieces 58a and 58b are driven so that a game sphere may tend to go into the starting mouth 44 and may become it, and the starting mouth 44 is made to be in an open state. In addition, when predetermined time passes after making the starting mouth 44 into an open state, a movable piece is driven, and a game sphere cannot enter easily and it is made to become by making the starting mouth 44 into a synzesis state.

[0074] Four hold lamps 34a-34d are formed in the both sides of right and left of the display 52 mentioned above. Furthermore, the general winning-a-prize mouth 50 is formed in the upper part of display 52. Moreover, the winning-a-prize mouth 38 of a game sphere is formed in the lower part of the game board 14. Near this winning-a-prize mouth 38, the shutter 40 is formed free [ opening and closing ]. When an adjustable display game changes into a great success state, a shutter 40 is driven by the solenoid 48 (not shown) so that it may be in an open state.

[0075] The general winning-a-prize mouths 54a and 54b are formed in the both sides of right and left of the display 32 mentioned above. Furthermore, the general winning-a-prize mouths 54c and 54d are formed in the both sides of right and left of the display 32 lower part. Moreover, the winning-a-prize mouths 56a and 56b are specially formed in the edge of right and left of the game board 14, and the winning-a-prize mouths 56c and 56d are specially formed in the both sides of right and left of the winning-a-prize mouth 38.

[0076] Moreover, the starting mouth 44 which has the sphere detection sensor 42 used as the opportunity which shifts to a change display state in the plurality which the adjustable display game mentioned later is started and is displayed on display 32, for example, the pattern which are three identification information, is formed. The winning-a-prize mouth 38 mentioned above, the starting mouth 44, the general winning-a-prize mouths 54a-54d, and when a game sphere wins specially a prize of the winning-a-prize mouths 56a-56d, it is made as [ pay / the lower pan 22 / a number of game spheres beforehand set up according to the kind of winning-a-prize mouth ].

[0077] The rolling flare-part material 60a and 60b for guiding the path of a game sphere in the predetermined direction is also formed in the both sides of right and left of display 32 further again. Moreover, the ornament lamps 36a and 36b are

formed in the outside upper left-hand side and outside upper right-hand side of the game board 14.

[0078] In addition, even if the portion which displays the production picture later mentioned in the display 32 mentioned above consists of a liquid crystal display panel, it may consist of the Braun tube. Moreover, in the game board 14 of the pachinko game equipment 10 which is a game machine, although it showed the case where it was prepared in the front center of abbreviation, if display 32 is a position which a game person can see, it is good in the example mentioned above, also as forming display 32 in the position of what of a game machine.

[0079] Furthermore, the thing equipped with the liquid crystal screen other than a pattern display means to display a pattern also in pachislot game equipment also exists, and such pachislot game equipment makes the game production screen same in the liquid crystal screen as pachinko game equipment display, and tends to raise idea nature in recent years. Therefore, suppose that this invention is applied also in the pachislot game equipment which has such a liquid crystal screen.

[0080] Drawing 7 is the block diagram showing the control circuit of the pachinko game equipment which is the example of this invention.

[0081] The discharge handle 26 mentioned above is connected to the interface-circuitry group 62 of a control circuit 60, and the interface-circuitry group 62 is connected to the input/output bus 64. After the angle signal which shows the rotation angle of the discharge handle 26 is changed into a predetermined signal by the interface-circuitry group 62, it is supplied to an input/output bus 64. The input/output bus 64 is made as [ input / output and / a data signal or an address signal / by the central-process circuit (CPU is called hereafter) 66 ]. Moreover, the sphere detection sensor 42 is also connected to the interface-circuitry group 62 mentioned above, and when a game sphere passes the starting mouth 44, the sphere detection sensor 42 supplies a detecting signal to the interface-circuitry group 62. Furthermore, the sphere passage detector 55 is also connected to the interface-circuitry group 62, and the sphere passage detector 55 supplies a detecting signal to the interface-circuitry group 62, when it detects that the game sphere passed through the near.

[0082] ROM (read-only memory)68 and RAM (random access memory)70 are connected to the input/output bus 64 mentioned above. ROM68 memorizes the control program which controls the flow of the whole game of pachinko game equipment. Furthermore, in case an adjustable display game is performed in display 32, ROM68 The image data of a change display or the change pattern by which it is indicated by halt, the character image data which consists of a dynamic body object displayed as a production screen, The initial data for performing the background-image data which constitute the background of display 32, animation image image data and the sound data used for a game, and a control program, the program which controls the blink operation pattern of the ornament lamp 36, the probability table used for a lottery, etc. are memorized.

[0083] ROM68 memorizes the sound data used as BGM, a sound effect, voice, etc. further. In addition, the sound data which ROM68 memorizes may memorize the sound data which do not necessarily need to be sound data made to generate the sound which the effect of a binaural sound makes altogether, and are made to generate the sound which especially the effect of a binaural sound does not produce. Moreover, as for the sound data made to generate the sound which the effect of the above-mentioned binaural sound makes, it is desirable that it is sound data used as the sound which generates a virtual source. Furthermore, when the sound data with which ROM68 serves as sound which generates a virtual source are memorized, as for the sound data used as the sound which generates the above-mentioned virtual source, it is desirable that it is sound data made to generate voice, such as a character shown as a character picture displayed as a production picture.

[0084] When indicating the pattern by change in display 32, in case the pattern image data mentioned above indicates by halt, it is used, and it contains the image data according to various display modes, for example, the expanded picture, the reduced picture, the picture which deformed. Moreover, the character image data and background-image data which consist of a dynamic body object mentioned above, and animation image image data are for displaying on display 32 by making into a screen picture a dynamic image, static picture images, or these pictures that were combined, as a game is directed. Furthermore, the character image data which consists of a dynamic body object mentioned above contains the image data corresponding to each of operation that operation of a character should be displayed.

[0085] Moreover, RAM70 memorizes the value of the flag used by the program mentioned above, or a variable. For example, the accumulation reach data, the number of accumulation change, and the number of times of accumulation great success which show the history of the result of an operation by new input data and new CPU66 or a game are memorized.

[0086] By calling and performing a predetermined program, CPU66 which is a control section performs data processing, and controls transmission and others by making into a correspondence number the character image data and background-image data which consist of a dynamic body object based on the result of this data processing, animation image image data, change pattern image data, and sound data. In addition, although not illustrated, DSP mentioned above decides to be contained in CPU66.

[0087] Moreover, CPU66 reads the image data of the change pattern which is the identification information mentioned above, and it controls, or it controls it so that a halt indication of the mutual combination state of the pattern which are two or more identification information is given to predetermined timing in display 32 so that a change indication of the pattern is given in display 32.

[0088] Furthermore, the interface-circuitry group 72 is also connected to the input/output bus 64. Display 32, a loudspeaker 46 (46a, 46b), the discharge motor 28, the solenoid 48, the hold lamp 34, and the ornament lamp 36 are connected to the interface-circuitry group 72, and the interface-circuitry group 72 supplies a driving

signal and drive power to it that each of the equipment mentioned above according to the result of data processing in CPU66 should be controlled.

[0089] The screen picture of the display 32 which is a display consists of a production picture as which the discernment picture as which a change pattern is displayed, and a production screen are displayed, and is displayed as one picture by piling up these two pictures by control of CPU66, and compounding.

[0090] Thus, especially, by making a production picture into a background, the scene which piles up and compounds two or more pictures, for example, a pattern picture and a production picture, and on which a pattern is changed can be directed, and a colorful display gestalt becomes possible at a twist.

[0091] It is for carrying out the opening-and-closing drive of the \*\*\*\* shutter 40 mentioned above, and a solenoid 48 shows the number of times of the suspended adjustable display game with the number of the lamps to turn on, and the ornament lamp 36 blinks or turns on the hold lamp 34 for it to show a game person that, when it becomes a time of a game being becoming it a great success, and reach.

[0092] A control section consists of CPUs66 mentioned above, a display consists of display 32, and a game machine consists of pachinko game equipment 10.

[0093] The variable used for below in CPU66 which had started pachinko game equipment 10 and was mentioned above shall be initialized by the predetermined value, and shall carry out regular operation. Moreover, about sound other than the sound which announces beforehand the reliability of great success, and/or the reliability of reach, although explanation is omitted, suppose that BGM, a sound effect, voice, etc. are outputted suitably according to a game situation.

[0094] Drawing 8 is a flow chart which shows the sub routine which detects the game sphere performed in the control circuit 60 mentioned above. In addition, this sub routine is called and performed to predetermined timing from the control program which controls the pachinko game of the pachinko game equipment 10 currently performed beforehand.

[0095] First, it detects whether it is the no by which the game sphere went into the winning-a-prize mouth (Step S101). This winning-a-prize mouth is the general winning-a-prize mouth 50, 54a-54d, and the special winning-a-prize mouths 56a-56d in the example shown in drawing 6 mentioned above, for example. In Step S101, when it judges that the game sphere went into the winning-a-prize mouth, processing which pays out a number of game spheres beforehand defined according to the kind of winning-a-prize mouth is performed (Step S102).

[0096] Next, it judges whether the game sphere went into the starting mouth (Step S103). This starting is the starting mouth 44 in the example shown in drawing 6 mentioned above, for example. In this step S103, when it judges that the game sphere went into the starting mouth, the lottery which determines whether generate the great success state mentioned above is performed (Step S104). It is the processing which determines whether the above-mentioned lottery processing generates a great success state, and CPU66 performs internal lottery processing in

which the combination of the change pattern by which it is indicated by halt is defined, in Step S200 of an adjustable display game manipulation routine mentioned later based on this lottery result. In addition, about an adjustable display game manipulation routine, it will explain in full detail later using a drawing.

[0097] Next, it judges whether an on-going (display) adjustable display game exists (Step S105). In addition, an on-going (display) adjustable display game is an adjustable display game before being displayed on display 32, being in the state in which what a game person looks at is possible and giving a halt indication of all the change patterns now. That is, I hear that the adjustable display game manipulation routine which the game sphere of 1 goes into a starting mouth, and mentions later has already been performed, and an on-going (display) adjustable display game sometimes exists. In addition, although a halt indication of all the change patterns may be temporarily given when the adjustable display game of 1 and other adjustable display games are started continuously, such when a halt indication of all the change patterns is given temporarily, suppose that an on-going (display) adjustable display game exists on these specifications.

[0098] In Step S105, when it is judged that an on-going (display) adjustable display game does not exist, the adjustable display game mentioned later is performed (Step S106). On the other hand, when it is judged that an on-going (display) adjustable display game exists next, it judges whether the sound which the effect of a binaural sound makes is outputted (Step S107). That is, when generating a great success state is determined as a result of the lottery processing mentioned above, the sound data which judge that CPU66 outputs the sound which the effect of a binaural sound makes, and are made to generate the sound which the effect of a binaural sound makes in Step S109 mentioned later choose.

[0099] In addition, in Step S107, even if it is the case where it is judged as a result of the lottery processing mentioned above that a great success state is not generated, it may be set up so that it may judge that the sound which the effect of a binaural sound makes is outputted. On the contrary, it may be set up so that it may judge that the sound which the effect of a binaural sound makes is not outputted even if it is the case where it is judged as a result of the lottery processing mentioned above that a great success state is generated. Necessarily, only when generating a great success state is determined, it is not necessary to judge that the sound which the effect of a binaural sound makes is outputted.

[0100] In Step S107, when it is judged that the sound which the effect of a binaural sound makes is not outputted, the lottery data determined in Step S104 are memorized to RAM70 (Step S108). The above-mentioned lottery data are data used in the adjustable display game manipulation routine mentioned later, and internal lottery processing performed in Step S200 will be performed based on the above-mentioned lottery data.

[0101] When it is judged that the sound which the effect of a binaural sound makes is outputted in Step S107 on the other hand, the sound data used as the sound



which the effect of a binaural sound makes are chosen (Step S109). That is, CPU66 chooses and reads the sound data used as the sound which the effect of a binaural sound makes from the sound data memorized by ROM68. And a correspondence number is generated from this sound data, and it transmits to a loudspeaker.

Consequently, the sound which the effect of a binaural sound makes by the loudspeaker in an on-going adjustable display game will be outputted. Then, the lottery data determined in Step S104 are memorized to RAM70 (Step S108).

[0102] Thus, in Step S105, when it is judged that an on-going (display) adjustable display game exists, judgment of Step S107 will not be caused how, but the adjustable display game from which the lottery data in Step S104 should be memorized and started by RAM70 at Step S108 will be suspended.

[0103] The sound data used as the sound which the effect of the binaural sound chosen in Step S109 makes here Like [ although not limited especially ] the sound data made to generate the sound which expresses the flapping of wings of the bee which approaches from the direction of a long distance, for example, and the sound data made to generate the sound showing the cry of the cat which approaches from the direction of a long distance When the great success state or the reach state has been approaching, it is desirable that it is sound data made to generate the sound which a game person can be made to recognize. Moreover, the sound data made to generate the sound which announces the reliability of great success beforehand, and the sound data made to generate the sound which announces the reliability of reach beforehand may be sound data used as different sound, and may be sound data used as the same sound.

[0104] moreover, when choosing the sound data used as the sound which the effect of a binaural sound makes in Step S109, ROM68 is made to memorize the sound data of two or more patterns which have relation in the tale beforehand developed by the production picture etc., and the sound data used as the sound which the effect of a suitable binaural sound makes are chosen according to the contents of an on-going (display) adjustable display game -- things are desirable In an on-going (display) adjustable display game, it is because there is a possibility that a game person may memorize sense of incongruity in the tale developed by the above-mentioned production picture etc., and it may become impossible to fully enjoy the above-mentioned tale when the reliability of great success and/or the reliability of reach are announced beforehand with the tale developed by the production picture etc. and the sound which is completely irrelevant.

[0105] Moreover, it is desirable to remember the becoming sound data to be the sound which the effect of two or more binaural sounds that speed and tempo differ from the method of change etc. makes in ROM68. This is based on the next reason.

[0106] In this invention, although the sound which the effect of the above-mentioned binaural sound makes announces beforehand the reliability of great success, and/or the reliability of reach by outputting over the period of the adjustable display game of multiple times when the suspended adjustable display

game is started continuously A big difference will arise in the period which outputs the sound which the effect of a binaural sound makes depending on the timing for which the adjustable display game used as the sound which the effect of the above-mentioned binaural sound makes, and the opportunity which reads the becoming sound data was suspended. That is, it will be generated in the big difference in the period when the sound which the effect of the above-mentioned binaural sound makes is outputted by the case where the adjustable display game used as the case where the adjustable display game which became the opportunity which reads the above-mentioned sound data just after an on-going (a display) adjustable display game, for example is suspended, and the opportunity which read the above-mentioned sound data after [ of an on-going (a display) adjustable display game ] 3 times is suspended.

[0107] although which adjustable display game can recognize whether it is set as the object of a preliminary announcement by the timing to which the sound which the effect of the above-mentioned binaural sound makes was outputted while it is the suspended adjustable display game, a game person For example, although the sound which the effect of the above-mentioned binaural sound makes is heard in the direction of a long distance Although the sound which the case where an adjustable display game will be in a great success state etc., and the effect of the above-mentioned binaural sound make is heard immediately in the side Like [ in case an adjustable display game will not be in a great success state etc. easily ] If the sound which the effect of the binaural sound outputted makes, and advance of a game are not interlocking at all, there is a possibility that the hope that a game person's great success state and reach condition approach may become impossible as for IMAICHI peak raising \*\*\*\*\*.

[0108] moreover, although it is possible to interlock the sound which the effect of the binaural sound outputted by making the sound which the effect of the above-mentioned binaural sound makes update in Step S202 of the adjustable display game processing mentioned later (change) makes, and advance of a game, when the sound which the effect which is the above-mentioned binaural sound rapidly or greatly makes changes, there is a possibility that a game person may memorize sense of incongruity to a game Then, two or more sound data with which speed and tempo differ from the method of change etc. to some extent are prepared beforehand, and it is desirable to choose suitable sound data according to the timing for which the adjustable display game used as the opportunity which reads the sound data concerned was suspended. When the adjustable display game which specifically became the opportunity which reads the above-mentioned sound data just after an on-going (display) adjustable display game is suspended The sound data used as the sound which the effect of the binaural sound which a game person can be made to recognize that a great success state and/or a reach state approach suddenly makes are chosen. Moreover, when the adjustable display game used as the opportunity which reads the above-mentioned sound data after [ of an on-going (display)

adjustable display game ] 3 times is suspended, [ for example, ] What is necessary is just to choose the sound data used as the sound which the effect of the binaural sound which a game person can be made to recognize that the great success state and/or the reach state have been approaching slowly makes.

[0109] Moreover, in Step S105, when it is judged that an on-going (display) adjustable display game exists, CPU66 reads the program which makes the hold lamp 34 turn on from ROM68, and performs it.

[0110] Usually, two or more hold lamps 34 are formed. For example, in the game machine shown in drawing 6, four hold lamps 34a-34d are formed. That is, if a game sphere goes into the starting mouth 44 while the adjustable display game of 1 is advancing (display), hold lamp 34a will light up, and if it goes into still more nearly another game sphere or the starting mouth 44, hold lamp 34b will light up.

[0111] Moreover, since the hold lamp 34 made to newly turn on does not exist when the hold lamps 34a-34d are altogether on, and a game sphere goes into the starting mouth 44 further, the result of that the above-mentioned game sphere went into the starting mouth 44 and the lottery processing with this game sphere becomes invalid. It is possible to also make it perform, before such processing performs lottery processing in Step S104.

[0112] In Step S103, when Step S106 or processing of S108 is performed when it is judged that the game sphere is not contained in a starting mouth or next, it judges whether the game sphere passed the sphere passage detector (Step S110). This sphere passage detector is the sphere passage detectors 55a and 55b in the example shown in drawing 6 mentioned above, for example.

[0113] In this step S110, when a sphere passage detector is judged that the game sphere passed, as mentioned above, processing which usually indicates the pattern by change in display 52 is performed (Step S111). In addition, as mentioned above, when are indicated by change and it becomes [ at which the pattern usually stopped ] a predetermined pattern, a game sphere tends to go into the starting mouth 44, and it is made to become it, as the movable pieces 58a and 58b are driven and it will be in an open state about the starting mouth 44.

[0114] Next, the adjustable display game in this invention is concretely explained using a drawing. In addition, in the adjustable display game indicated below, when the suspended above-mentioned adjustable display game is started continuously, the case where it is presupposed that the sound which the effect of a binaural sound makes continuously is outputted over the period of the above-mentioned adjustable display game of multiple times is explained. Drawing 9 is a flow chart which shows the sub routine which performs adjustable display game processing called and performed in Step S106 mentioned above, and drawing 10 (a) - (c) and drawing 11 (a) - (c) is explanatory drawing showing an example of the picture displayed on display, when the adjustable display game is performed.

[0115] By calling this sub routine, the fixed screen currently displayed in display 32 is usually changed to a screen, and an adjustable display game is started. An

adjustable display game is a game which imitated the game made in a slot machine here. After displaying two or more patterns which are two or more identification information on display 32 and displaying that the each is changed, When the combination of the pattern when these patterns displaying that it stops one by one to predetermined timing, and stopping all the patterns turns into a predetermined combination It is a game for shifting a pachinko game to a state advantageous to a game person, and is the game performed considering this change display and a halt display as one distance.

[0116] For example, as one group of the pattern which consists of "1", "2", —, 12 numbers that consist of "12", these 12 patterns are displayed on display 32 one by one, and it is displayed that the pattern itself changes, displaying that the pattern moves. For example, in display 32, after displaying that "1" of a pattern scrolls down to the upper shell of display 32, it displays that "2" of a pattern is scrolled from a top to the bottom, and it is displayed that "3" of a pattern is continuously scrolled to the bottom of an upper shell similarly. After displaying "from 1" to "12" of a pattern in such a mode, it displays that "1" of a pattern is scrolled again, and the same display is repeated successively. [ of a pattern ]

[0117] By displaying a pattern like a display 32 smell lever, while a pattern is scrolled from "2" to "3" from "1" to "2", a pattern will be displayed to change one by one to "12", and next, "1" will be displayed again. Thus, the mode which displays a pattern that the pattern itself changes one by one is called change display, moving the position of one pattern. Moreover, the mode which is made to stop a certain pattern and is displayed is called halt display.

[0118] In addition, the pattern displayed in case the pattern belonging to one group is displayed on display 32 is good also as not being restricted only to one pattern belonging to one group, and displaying simultaneously plurality, for example, 2-3 patterns. For example, while indicating the pattern "5" by change at display 32, a part or the whole of a pattern "4" is indicated by change under the pattern "5", and it is good above a pattern "5" also as indicating a part or the whole of a pattern "6" by change. In addition, the group of the pattern mentioned above is a concept corresponding to the group of the pattern displayed on one reel used in a slot machine.

[0119] Furthermore, when an adjustable display game is performed in display 32, the pattern belonging to each of two or more groups is displayed. For example, when displaying each of the pattern belonging to three groups on a longitudinal direction, the pattern belonging to one group is displayed on the left-hand side of display 32, the pattern belonging to other groups is displayed in the center of display 32, and the pattern belonging to the remaining groups is displayed on the right-hand side of display 32.

[0120] Thus, by displaying the pattern which is identification information, two or more identification information will be displayed on the display 32 which is a display. For example, so that only one pattern in the pattern belonging to one group may

always be displayed, when indicating by change, one pattern will be displayed on display 32 by three patterns, i.e., left-hand side, one pattern will be displayed in the center, and one pattern will be displayed on right-hand side. moreover — displaying the pattern which the number of the groups at the time of an adjustable display game being performed is not restricted to three, and belongs to two or more groups other than three on display 32 — also carrying out — it is good

[0121] As mentioned above, two or more patterns (change pattern), i.e., two or more identification information, will be displayed on the display 32 which is a display by displaying a pattern in this way. Furthermore, when we decided to display that it is good also as displaying two or more patterns about the pattern belonging to one group as mentioned above, for example, the three patterns belonging to one group are simultaneously indicated by change and it displays about three groups, a change indication of a total of nine patterns will be given at display 32.

[0122] When all the patterns by which it was indicated by change are indicated by halt to predetermined timing after indicating the pattern belonging to two or more groups by change, the combination of these patterns agrees about a predetermined combination, and it shifts to the state where a pachinko game becomes advantageous to a game person noting that an adjustable display game wins great success, when indicated by halt.

[0123] For example, while displaying the pattern belonging to three groups on display 32 When indicating the one change pattern by halt about 1 set, a halt indication of the pattern belonging to one group is given by "7." When a halt indication also of the pattern belonging to other groups and the pattern which it is indicated by halt by "7" and belongs to the remaining groups is given by "7" The combination of a pattern is combination "7"-"7 predetermined". – It agrees in "7", and it shifts to the state where a pachinko game becomes advantageous to a game person noting that an adjustable display game wins great success. It is made easy to open wide the shutter 40 of the winning-a-prize mouth 38 which supplies current to the solenoid 48 mentioned above, and is prepared in the front face of the game board 14, and to go a game sphere into the winning-a-prize mouth 38, when it shifts to the state where it is becoming it a great success, and becomes advantageous to a game person.

[0124] Moreover, when this adjustable display game is performed, the production screen by the background image, the character picture, etc. is also displayed on display 32. In addition, when the adjustable display game by which the fixed screen mentioned above is performed in display 32 is not performed but only the pachinko game is advancing in pachinko game equipment 10, the screen displayed on display 32 is said. Moreover, the production screen which will be displayed on display 32 by the time it results when the adjustable display game separated from the screen, and it changes into a state or changes into a great success state after a change indication of the pattern which an adjustable display game is started in display 32, and is displayed on display 32 is given is usually said.

[0125] In addition, when the above-mentioned adjustable display game is performed, the sound which the effect of a binaural sound always mentioned above makes does not need to be outputted. Moreover, although the sound which the effect of the above-mentioned binaural sound makes is not outputted when the above-mentioned adjustable display game is started, the sound which the effect of the above-mentioned binaural sound makes will be outputted during execution of the adjustable display game concerned.

[0126] A start of the adjustable display game mentioned above performs internal lottery processing by data processing of CPU66 first (Step S200). It is the processing set beforehand the combination of the pattern when this internal lottery processing indicating by halt all the patterns that belong to two or more groups by which it was indicated by change, and deciding a pattern, and CPU 66 carries out processing with the change display of a pattern, and a halt display so that it may mention later, and a halt indication of the pattern may be given in the combination of the pattern defined by internal lottery processing.

[0127] Next, it judges whether the sound which the effect of a binaural sound makes is updated (Step S201). in addition, since the sound which the effect of a binaural sound set as the object of judgment makes will not exist when the sound which the effect of a binaural sound mentioned above makes in this adjustable display game is not outputted, the sound which the effect of a binaural sound always makes is updated, and judges that there is nothing

[0128] the sound which the effect of a binaural sound makes is outputted, and in Step S201, when it is judged that the sound which the effect of a binaural sound makes is updated, the new sound data used as the sound which the effect of a new binaural sound makes are chosen (Step S202) That is, CPU66 chooses and reads the new sound data used as the sound which the effect of a binaural sound makes from the sound data memorized by ROM68. And a correspondence number is generated from this sound data, and it transmits to a loudspeaker. Consequently, the sound which the effect of a different new binaural sound from the sound which the effect of the binaural sound currently outputted till then makes by the loudspeaker makes will be outputted. For example, when generating a reach state is determined as a result of the internal lottery processing mentioned above, the sound data made to generate the sound currently outputted till then and different sound are chosen and read. By doing in this way, the sound which the effect of the binaural sound which announces the reliability of reach beforehand makes can be outputted. Thus, by processing Step S202, based on the result of internal lottery processing of Step S200, the sound which produces the effect of the binaural sound currently outputted till then can be adjusted to the sound according to the game situation, or can be changed.

[0129] after judging that the sound which the effect of a binaural sound makes at Step S201 is not updated or performing processing of Step S202 next, the screen configuration information which is the selected background image is generated by

RAM70 (Step S203) That is, after the above-mentioned internal lottery processing is performed, according to the result of internal lottery processing, the advance situation of an adjustable display game, etc., the control program which chooses a background image is called and performed from ROM68 by CPU66.

[0130] Next, the screen configuration information of the background image chosen by CPU66 based on the result by which it might perform is generated by RAM70 by CPU66 at any time. Especially as the above-mentioned background image, although not limited, as shown in drawing 10, the picture which shows woods, the picture which shows a street corner as shown in drawing 11 can be mentioned, for example. Such a picture is suitably chosen by CPU based on the advance situation of an adjustable display game, and the result of the above-mentioned internal lottery processing.

[0131] Next, the screen configuration information of the selected character picture is generated by RAM70 (Step S204). That is, based on the execution result of the above-mentioned control program, the screen configuration information of the character picture chosen by CPU66 is generated by RAM70.

[0132] Movement can be given and displayed on a character picture by controlling so that the head position of a character picture shifts by predetermined movement magnitude with the period (frame span) of the fixed interval for every grade for  $1/30$  seconds at this time, for example,  $60/1$  seconds. In addition, about the picture which shows a character, it does not always necessarily need to be displayed on display.

[0133] Subsequently, the screen configuration information of the change pattern which is identification information is generated by RAM70 by CPU66 based on the execution result of the above-mentioned control program (Step S205).

[0134] The screen configuration information of the picture used as each pattern which constitutes the above-mentioned change pattern It is based on the control program mentioned above. by CPU66 for example,  $1/60$  seconds, and the period (frame span) of the fixed interval for every 30-second grade The change display of a change pattern can be performed by controlling the picture which it is made to shift by predetermined movement magnitude, and serves as each change pattern in the head position of screen configuration information about the picture used as the change pattern which has the same identification information to generate one by one in predetermined sequence.

[0135] Furthermore, since the fluctuation velocity of a change pattern is controllable by adjusting a frame span, the head position of read-out of screen configuration information, etc., in a background image, it is also possible to smooth change of a change pattern and to aim at fusion for a background image and a change pattern according to the tale developed.

[0136] In addition, it is possible to also make ROM68 display that the configuration of this change pattern changes with time during a change display by making two or more image data used as a different configuration memorize, reading from CPU66 at

any time, and transmitting to display 32 about the same change pattern.

[0137] Next, it judges whether it is the timing which indicates the pattern belonging to one group by halt (Step S206). That is, it judges whether it is the timing which indicates by halt the pattern which belongs to one group among plurality, for example, three groups. When it distinguishes that it is the timing which indicates the one change pattern by halt, a change pattern picture is chosen by CPU66 in the mode which indicates the one change pattern by halt, and the screen configuration information of this change pattern picture is generated by RAM70 by it (Step S207).

[0138] Subsequently, in Steps S203-S205 and Step S207, each image data corresponding to the above-mentioned screen configuration information is read from ROM68 by CPU66 based on the screen configuration information generated by RAM70. Then, after considering as the image data displayed on display 32, it is transmitted and displayed on display 32 by the priority as which it is displayed in the above-mentioned screen configuration information, and the information about a position etc. (Step S208).

[0139] Next, it judges whether it is the timing which stops the sound which the effect of a binaural sound makes (Step S209). although especially the timing that stops the sound which the effect of a binaural sound makes is not limited, when three change patterns are displayed, it can mention the timing by which a halt indication of the two change patterns is given, the timing by which a halt indication of the last change pattern of being among three change patterns is given, for example The timing by which the timing by which a halt indication of the two change patterns mentioned above is given means the time of changing into a reach state when the preliminary announcement of the reliability of reach is performed, and a halt indication of the last change pattern of the three change patterns is given means the time of changing into a great success state, when the preliminary announcement of the reliability of great success is performed. in addition, in this adjustable display game, since the sound which the effect of a binaural sound set as the object of judgment makes will not exist when the sound which the effect of a binaural sound mentioned above makes is not outputted, the sound which the effect of a binaural sound always makes is stopped -- it is judged that it is not timing

[0140] when it is judged that it is the timing which stops the sound which the effect of a binaural sound makes in Step S209, the program which stops the sound which the effect which is the binaural sound currently outputted from ROM68 makes is read by CPU66, and the sound which the effect of a binaural sound makes is stopped (Step S210) in addition, since the output of the sound which the effect of a binaural sound makes will be suspended after a predetermined period passes even if it does not process Steps S209 and S210 when the sound which the effect of a binaural sound makes by reading the sound data made to generate sound over a predetermined period is being outputted, the processing which are Steps S209 and S210 is omissible

[0141] In Step S211 mentioned later, processing of Steps S203-S210 mentioned



above is repeatedly performed until it is judged that a halt indication of all the patterns belonging to two or more groups was given. By repeating and performing such processing, it can be displayed that the pattern can be indicated by change so that it may scroll in a predetermined mode, and a character picture also carries out predetermined operation.

[0142] in Step S209, after judging that it was not the timing which stops the sound which the effect of a binaural sound makes or performing processing of Step S210, it judges whether a halt indication of all the patterns belonging to two or more groups was given (Step S211) When it judges that a halt indication of all the patterns belonging to two or more groups is not given, processing is returned to Step S203.

[0143] When it is judged that a halt indication of all the patterns belonging to two or more groups is given in Step S211 on the other hand, it judges whether the lottery data which it means that the adjustable display game by one game sphere having gone into the starting mouth was completed, next were memorized by RAM70 exist (Step S212). Since the suspended adjustable display game will exist when it is judged that the lottery data memorized by RAM70 exist, the oldest lottery data are read among the lottery data memorized by RAM70 (Step S213).

[0144] After performing processing of Step S213, the program which makes one hold lamp turned on most newly switch off is read from ROM68, and is performed. Consequently, one of the turned-on hold lamps is switched off. And processing is returned to Step S200, and in Step S200, CPU66 will perform internal lottery processing based on the read lottery data, and will repeat and perform processing of Steps S203-S211 based on the result of the internal lottery processing.

[0145] Since the suspended adjustable display game will not exist when it is judged that the lottery data memorized by RAM70 do not exist in Step S212 on the other hand, this sub routine is ended. In addition, the sound which the effect of a binaural sound mentioned above makes does not need to be continuously outputted over the period of the above-mentioned adjustable display game of multiple times, when the suspended above-mentioned adjustable display game is started continuously. When the above-mentioned adjustable display game which followed, for example, was suspended is started continuously, the sound which the effect of a binaural sound makes from the middle of each adjustable display game according to the tale developed on a screen may be outputted.

[0146] Next, in an adjustable display game, the screen picture displayed on a display is explained using drawing 10 (a) - (c) and drawing 11 (a). When the adjustable display game A is performed below, three game spheres go into a starting mouth, 3 times of the adjustable display games B, C, and D are suspended, and the case where it is determined that a great success state occurs after the adjustable display game D is completed will be further explained as a result of the lottery processing mentioned above.

[0147] First, drawing 10 is explained. Three change patterns are displayed on the screen bottom in the state where it stood in a line horizontally, and the production

picture is expressed to the three change patterns up side as the screen picture shown in drawing 10 . Moreover, the tale developed in the screen picture shown in drawing 10 is a tale that my ton of a pig with \*\* extracts honey, in woods.

[0148] While a change indication of the three change patterns is given in the screen bottom as the adjustable display game B is started and it is shown in drawing 10 (a) after the adjustable display game A is completed next, the picture which shows signs that my ton who had \*\* as a production picture under the tree which has a swage block in woods approaches is displayed. Furthermore, the picture which shows two or more bees is displayed on the screen upper right. Then, while the production picture which shows signs that my ton is going to extract honey and it fights desperately is displayed, a halt indication of the three change patterns is given one by one. And while three change patterns separate and being indicated by halt in a pattern, the production picture which shows signs that it is mortified without the ability of my ton extracting honey is displayed, and the adjustable display game B is completed. While this adjustable display game B is performed, the sound showing the flapping of wings of two or more bees is outputted from a loudspeaker 46 to the sound which the effect of a binaural sound makes, as it has generated in a game person's long distance.

[0149] Next, while a change indication of the three change patterns will be again given in the screen bottom as shown in drawing 10 (b) if the adjustable display game C is started, the picture which shows signs that it is waiting for my ton with \*\* to walk under a tree with a swage block as a production picture, and for a bee to approach the surroundings is displayed. Furthermore, the picture which shows two or more bees is displayed in the mode which approaches a swage block gradually from the screen upper right. Then, while the production picture which shows signs that my ton who got angry is going to extract honey again for a bee not to approach easily, and he struggles hard against it is displayed, a halt indication of the three change patterns is given one by one. And while three change patterns separate and being indicated by halt in a pattern, the production picture regretted without the ability of my ton extracting honey is displayed, and the adjustable display game C is completed. While this adjustable display game C is performed, the sound showing the flapping of wings of two or more bees is outputted from a loudspeaker 46 to the sound which the effect of a binaural sound makes so that a game person may be approached gradually.

[0150] Next, if the adjustable display game D is started, while a change indication of the three change patterns will be given in the screen picture and the same picture as abbreviation which are shown in drawing 10 (b), i.e., the screen bottom, the picture which shows signs that it is waiting for my ton with \*\* to walk under a tree with a swage block as a production picture, and for a bee to approach the surroundings is displayed. Then, a swage block is crowded with two or more bees, and while the production picture in which my ton is looking at the situation is displayed, a halt indication of three change displays is given one by one. While this

adjustable display game D is performed, the sound showing the flapping of wings of two or more bees is outputted from a loudspeaker 46 to the sound which the effect of a binaural sound makes as if it was emitted close to a game person's ears.

[0151] And "7" whose three change patterns are great success patterns as shown in drawing 10 (c) – "7" – While being indicated by halt by "7", the picture with which my ton can extract honey and it is pleased is displayed, and the adjustable display game D is completed. Then, a great success state occurs and predetermined profits and an advantageous predetermined state are offered to a game person.

[0152] Thus, the sound showing the flapping of wings of two or more bees is outputted over the period when adjustable display game B-D of multiple times is performed to the sound which the effect of a binaural sound makes so that a game person may be approached gradually, and presence which the great success state has been approaching gradually from the past game can be given to a game person by announcing the reliability of great success beforehand.

[0153] Next, drawing 11 is explained. Where three change displays are horizontally located in a line, it is displayed on the screen bottom, and the production picture is expressed to the three change patterns up side as the screen picture shown in drawing 11 . Moreover, the tale developed in the screen picture shown in drawing 11 is a tale that my ton of a pig looks for Tama of the cat which became a missing child, in a street corner.

[0154] While a change indication of the three change patterns is given in the screen bottom as the adjustable display game B is started and it is shown in drawing 11 (a) after the adjustable display game A is completed next, the picture which shows signs that Tama of the cat from which my ton became a missing child is looked for, in a street corner as a production picture is displayed. Then, my ton goes into an alley, and it goes, or the lid of a garbage can is opened, and while the production picture which shows signs that Tama is looked for is displayed, a halt indication of the three change patterns is given one by one. And while three change patterns separate and being indicated by halt in a pattern, the production picture which shows signs that it feels sad, without the ability of my ton finding Tama is displayed, and the adjustable display game B is completed. While this adjustable display game B is performed, the sound showing the cry of a cat is outputted from a loudspeaker 46 to the sound which the effect of a binaural sound makes as emitted around the game person.

[0155] Next, while a change indication of the three change patterns will be again given in the screen bottom as shown in drawing 11 (b) if the adjustable display game C is started, as a production picture, Tama runs out of the reverse side of a wall, and goes into the alley, and the production picture which shows signs that it begins to shed tears, without the ability of my ton finding Tama is displayed. Then, my ton climbs a telegraph pole, or the reverse side of a wall peeps into, and while the production picture which shows signs that Tama is looked for is displayed, a halt indication of the three change patterns is given one by one. And while three change patterns separate and being indicated by halt in a pattern, the production picture

which shows signs that it feels sad, without the ability of my ton finding Tama is displayed, and the adjustable display game C is completed. While this adjustable display game C is performed, the sound showing the cry of a cat is outputted from a loudspeaker 46 to the sound which the effect of a binaural sound makes so that it may separate from the game person to a distance.

[0156] Next, if the adjustable display game D is started, while a change indication of the three change patterns will be given in the screen picture and the same picture as abbreviation which are shown in drawing 11 (a), i.e., the screen bottom, the picture which shows signs that Tama of the cat from which my ton became a missing child is looked for, in a street corner as a production picture is displayed. Then, while the production picture which shows signs that my ton looks for Tama hurriedly is displayed, a halt indication of the three change patterns is given one by one. While this adjustable display game D is performed, the sound showing the cry of a cat is outputted from a loudspeaker 46 to the sound which the effect of a binaural sound makes so that it may approach close to his ears [ of a game person ].

[0157] And "7" whose three change patterns are great success patterns as shown in drawing 11 (c) - "7" - While being indicated by halt by "7", the picture with which my ton can meet again with Tama and it is pleased is displayed, and the adjustable display game D is completed. Then, a great success state occurs and predetermined profits and an advantageous predetermined state are offered to a game person.

[0158] In the example shown in drawing 11 , the reliability of great success is announced beforehand by outputting it so that it may output so that it may separate from the game person, and it may approach close to his ears [ of a game person ] after that after outputting the sound which expresses the cry of a cat over the period when adjustable display game B-D of multiple times is performed as emitted around the game person. By doing in this way, it becomes possible to give presence which the great success state where it has been approaching leaves to a game person, or to give presence which the great success state which once separated approaches again conversely.

[0159] As it outputs the sound which the effect of a binaural sound makes in this invention so that a game person may be approached gradually, as explained using drawing 10 , and explained using drawing 11 it not only announces the reliability of great success beforehand, but the sound which the effect of a binaural sound makes combining various methods, such as outputting the sound which the effect of a binaural sound makes, or outputting the sound which the effect of a binaural sound makes so that it may separate from the game person, is outputted as emitted around the game person, and the reliability of great success is announced beforehand — things are possible thus, since the preliminary announcement which is the reliability of the great success which was rich in the variation by outputting the sound which the effect of a binaural sound makes combining various methods can be performed, it becomes possible to raise the hope about the whereabouts of a game

[0160] Moreover, in the example mentioned above, although the preliminary

announcement of the reliability of great success was explained, it can carry out also with the preliminary announcement of the reliability of reach using the method of announcing the reliability of great success beforehand, and the same method.

[0161] As mentioned above, by the production expression method of the game machine of this invention, and a game machine, when the suspended adjustable display game is started continuously, the presence by the binaural sound can be given, announcing beforehand the reliability of great success, and/or the reliability of reach to a game person by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times. Consequently, when the degree of expectation about the whereabouts of a game and the degree of excitement are raised and a game is becoming it a great success, without being able to perform a game and making a monotonous feeling and the malaise memorized to a game person, making relevance with the past game maintain, a game person can uplift a game person's feeling of fullness and feeling of achievement, and can aim at fast improvement in interest.

[0162] Moreover, since the reliability of a great success state and/or the reliability of a reach state announce beforehand over the period of the above-mentioned adjustable display game of multiple times with the sound which the effect of a binaural sound makes when the suspended adjustable display game is started continuously, a game person can recognize that a great success state and/or a reach state have been approaching certainly, even if it always does not continue gazing at the display of pachinko game equipment. Consequently, a game person can have allowance, can enjoy the tale developed in a production picture, and he can perform a game over a long time, without sensing tiredness while he can look at the change pattern and production picture which are relaxedly displayed on a display.

[0163] Although the case where ROM68 and RAM70 of pachinko game equipment 10 memorized the program which controls a pachinko game, the program for detecting the game sphere shown in drawing 8, the program which performs the adjustable display game shown in drawing 9 in the example mentioned above was shown It is good also as a server and a terminal having data used by the programs mentioned above when it considered as the composition which can perform a pachinko game when an operator operates the terminal connected to the server possible [ communication ], or these programs.

[0164] Thus, when it considers as the composition which consists of a server and a terminal, the server memorizes beforehand the program which controls a pachinko game, the program for detecting the game sphere shown in drawing 8, the program which performs the adjustable display game shown in drawing 9, and transmits these programs to a terminal to predetermined timing.

[0165] On the other hand, a terminal once memorizes these transmitted programs and advances a pachinko game by beginning to read the program which memorized suitably and performing it. Moreover, it is good also as performing the program which controls a pachinko game, the program for detecting the game sphere shown in

drawing 8 , the program which performs the adjustable display game shown in drawing 9 by the server side, and transmitting to a terminal by making into a control signal or control information the instruction generated according to the execution result. In this case, a terminal chooses the picture for performing a pachinko game according to the control signal and control information which were transmitted, generates it, or displays the picture on a display.

[0166] Drawing 12 is the front view showing an example of the terminal when considering as composition which was mentioned above.

[0167] In the example shown in drawing 12 , a terminal 100 is a general-purpose personal computer, and a game person's alter operation is inputted from the input unit 102 connected to the terminal 100, for example, a keyboard. Moreover, the control section 130 of a terminal 100 consists of CPU108, ROM110, and RAM112 grade which are mentioned later, and the program which controls a pachinko game in this control section 130, and the program which controls an adjustable display game are performed.

[0168] This control section 130 also has the communication interface circuit 120 (not shown), and a control section 130 performs communication with the server later mentioned through a communication interface circuit 120, based on the control signal or control information transmitted from a server, a program, and data, a pachinko game is controlled or it controls an adjustable display game. Moreover, the loudspeaker 118 is connected to the control section 130, and it is possible to output the sound which the effect of a binaural sound makes by the loudspeaker 118.

[0169] Furthermore, the game machine picture which imitated pachinko game equipment as shown in the display 116 connected to the terminal 100 at drawing 12 is displayed, and a pachinko game is performed on this game machine picture. The display 132 by which the adjustable display game mentioned above on this game machine picture is performed is displayed as a picture. In this display 132, the picture of the pattern which is the identification information which was mentioned above is displayed.

[0170] Moreover, when the sub routine shown in drawing 8 and drawing 9 and a sub routine as shown in drawing 16 and drawing 17 are performed in a control section 130 so that it may mention later and the suspended adjustable display game is started continuously, the reliability of great success and/or the reliability of reach announce beforehand by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times.

[0171] Drawing 13 is the front view showing other examples of a terminal. In addition, the same sign was given to the component shown in drawing 12 , and the corresponding component. The example of drawing 13 shows the carried type terminal 140, and a game person's alter operation is inputted from the input unit 102 prepared in the terminal 140, for example, a switch. Moreover, the control section 130 (not shown) is formed in the interior of a terminal 140, it consists of CPU108,

ROM110, and RAM112 grade which are mentioned later, and the program which controls a pachinko game and an adjustable display game in this control section 130 is performed. Moreover, the loudspeaker 118 is connected to the control section 130, and it is possible to output the sound which the effect of a binaural sound makes by the loudspeaker 118.

[0172] Moreover, this control section 130 also has a communication interface circuit 120 (not shown), and a control section 130 performs communication with the server later mentioned through a communication interface circuit 120, and it controls a pachinko game and an adjustable display game based on the control signal or control information transmitted from a server, a program, and data.

[0173] Furthermore, as the display 116 prepared in the upper surface of a terminal 140 consists of a liquid crystal display panel and it was shown in drawing 13, the game machine picture which imitated pachinko game equipment is displayed, and a pachinko game is performed on this game machine picture. The display 132 by which the adjustable display game mentioned above on this game machine picture is performed is displayed as a picture. In this display 132, the picture of the pattern which is the identification information which was mentioned above is displayed.

[0174] Moreover, when the sub routine shown in drawing 8 and drawing 9 and a sub routine as shown in drawing 16 and drawing 17 are performed in a control section 130 and the suspended adjustable display game is started continuously, the reliability of great success and/or the reliability of reach announce beforehand by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times.

[0175] In the terminal 100 shown in drawing 12 as mentioned above, display 116 serves as another object and consists of control sections 130, various kinds of control signal or control information which were transmitted from the server, such as a display-control signal, are supplied to the control section 130 of a terminal 100, and a control section 130 supplies the status signal which generated and generated the status signal based on the supplied control signal or control information to display 116.

[0176] On the other hand, the terminal 140 shown in drawing 13 is constituted united with display 116, and the control signal or control information which were transmitted from the server, such as a display-control signal, are supplied to the control section 130 of a terminal 140, a control section 130 generates a status signal based on the supplied control signal or control information, and it supplies the generated status signal to display 116. The example shown below is applicable even if it is the composition which was united even if it was the composition that the control section and display of a terminal became another object.

[0177] Drawing 14 is the block diagram showing the terminal 100 mentioned above or the composition of 140 (the terminal unit for pachinko games is called hereafter). Moreover, drawing 15 is the block diagram showing the composition of the server 80 which is connected with this terminal unit for pachinko games through a

communication line, and supplies various control signals or control information, and data to the terminal unit for pachinko games.

[0178] The input unit 102, for example, the keyboard, and switch for inputting operation of a game person are connected to the interface circuitry 104 of the terminal unit 100 for pachinko games, and the interface circuitry 104 is connected to the input/output bus 106. It is made through this input/output bus 106 as [ input / output and / a data signal or an address signal / by the central-process circuit (CPU is called hereafter) 108 ]. ROM (read-only memory)110 and RAM (random access memory)112 are connected to the input/output bus 106. ROM110 and RAM112 memorize a program which is mentioned later, the image data for displaying on display 116, the sound data outputted by the loudspeaker 118. Moreover, the above-mentioned sound data contain the sound data made to generate the sound which the effect of a binaural sound makes.

[0179] Moreover, the interface-circuitry group 114 is also connected to the input/output bus 106. Display 116 and the loudspeaker 118 are connected to the interface-circuitry group 114, and the interface-circuitry group 114 supplies a status signal and a correspondence number to each of display 116 and a loudspeaker 118 according to the result of data processing in CPU108.

[0180] Furthermore, the communication interface circuit 120 is also connected to the input/output bus 106. This communication interface circuit 120 is for carrying out communication with the server 80 later mentioned through communication lines, such as a dial-up line network and a Local Area Network (LAN).

[0181] On the other hand, as shown in drawing 15 , shell composition of the server 80 is carried out with a hard disk drive 88, CPU82, ROM84 and RAM86, and the communication interface circuit 90. A hard disk drive 88 memorizes the program for receiving the program for carrying out communication with the terminal unit for pachinko games, and the information emitted from the terminal unit for pachinko games, the program which controls a pachinko game, and the program which controls an adjustable display game. A communication interface circuit 90 is for carrying out the terminal unit 100 for pachinko games mentioned above through communication lines, such as a dial-up line network and a Local Area Network (LAN), and communication with 140.

[0182] When it considers as composition which was mentioned above, the game machine picture which imitated the pachinko game equipment shown in drawing 12 or drawing 13 is displayed on the display 116 of the terminal unit 100 for pachinko games, and the picture which shows the display 132 for performing a game plate surface, a hold lamp, an ornament lamp, and an adjustable display game and the equipment of the display 152 grade for usually displaying a pattern, and the picture which shows a game sphere are displayed on display 116. In the display 132 for performing this adjustable display game, when an adjustable display game is performed, the picture of the pattern which is identification information is displayed.

[0183] Hereafter, the sub routine by which executive operation is carried out in each



of the terminal unit for pachinko games and a server is shown in drawing 16 – drawing 18 . The terminal unit 100 for pachinko games or 140, and a server 80 shall be started beforehand below, and shall carry out regular operation. Moreover, the variable used in CPU108 and CPU82 which were mentioned above shall be initialized by the predetermined value. Furthermore, each of equipments, such as a winning-prize mouth, a starting mouth, and a sphere passage detector, or a game sphere shall be displayed as a picture in display 116. In addition, about sound other than the sound which announces beforehand the reliability of great success, and/or the reliability of reach, although explanation is omitted, suppose that BGM, a sound effect, voice, etc. are outputted suitably according to a game situation.

[0184] The terminal unit 100 for pachinko games or ROM110 of 140 is made to memorize beforehand the program for controlling a pachinko game, and the program for performing an adjustable display game, and when it considers as the composition which transmits suitably the image data and sound data of the various kinds which are alike, therefore are needed with which a pachinko game advances from a server 80, the terminal unit 100 for pachinko games or 140, and the sub routine performed in a server 80 are shown in drawing 16 – drawing 18 .

[0185] Drawing 16 is a sub routine performed in the terminal unit 100 for pachinko games, or 140, in the following explanation, to predetermined timing, shall be read from ROM110 and shall be performed from the main routine. In addition, this main routine shall include beforehand the program which is needed in case communication with the servers 80, such as a program for judging whether communication with a server 80 is possible, is carried out.

[0186] First, a pachinko game is started by operation of a game person and executive operation of the game program is carried out (Step S301). This game program is for displaying a picture, a character picture, etc. of a game machine picture, a background image, or a change pattern which imitated pachinko game equipment on display 116 including the game program which controls a pachinko game, and the program for performing the adjustable display game mentioned later, or outputting sound by the loudspeaker 118. The sound which the effect of a binaural sound makes is included in the sound outputted from this loudspeaker 118. in addition, about the sound data made to generate the sound which the effect of a binaural sound makes, RAM112 may be made to memorize and the sound data made to generate the sound which the effect of a binaural sound makes are received from a server 80 in Step S301 — it is good also as things When the sound data made to generate the sound which the effect of a binaural sound makes in Step S301 are received, First, transmit the information which shows the purport by which the game was started in the terminal unit 100 for pachinko games, or 140 to a server 80, and the server 80 which received the information sets to Step S72 of a sub routine shown in drawing 17 . The sound data made to generate the sound which the effect of a binaural sound makes are transmitted to the terminal unit 100 for pachinko games, or 140. Consequently, in Step S301, the sound data made to generate the

sound which the effect of a binaural sound makes are receivable. In addition, suppose that it mentions later about the sub routine shown in drawing 17 .

[0187] Moreover, when a game program is performed in the terminal unit 100 for pachinko games, or 140, it detects that the game person operated the input unit 102. When it detects that the game person operated the input unit 102, as mentioned above, the display 132 which the game machine picture which imitated pachinko game equipment is displayed on the terminal unit 100 for pachinko games or the display 116 of 140, and displays an adjustable display game on this game machine picture is also displayed.

[0188] Furthermore, when a game person operates an input unit 102 that a game sphere should be discharged, the picture of the game sphere which can be checked by looking so that a game sphere may move in a game plate surface top is displayed on a game machine picture.

[0189] Next, it judges whether the game sphere went into the winning-a-prize mouth (Step S302). This winning-a-prize mouth is the general winning-a-prize mouth 50 shown in drawing 6 mentioned above, 54a-54d, and a picture portion specially corresponding to the winning-a-prize mouths 56a-56d.

[0190] When it judges that the game sphere went into the winning-a-prize mouth, processing which pays out the game sphere of the number according to the kind of winning-a-prize mouth is performed (Step S303). In addition, processing of this step S34 is good in the terminal unit 100 for pachinko games, or 140 also as memorizing the number of game spheres to RAM112 also as displaying the number of game spheres on the position of somewhere in display 116.

[0191] Next, it judges whether the game sphere went into the starting mouth (Step S304). This starting mouth is a picture portion corresponding to the starting mouth 44 shown in drawing 6 mentioned above. In this step S304, when it judges that the game sphere went into the starting mouth, the lottery which determines whether generate the great success state mentioned above is performed (Step S305). The above-mentioned lottery processing is processing which determines whether generate a great success state, and CPU108 performs internal lottery processing in which the combination of the change pattern by which it is indicated by halt is defined, in Step S200 of an adjustable display game manipulation routine based on this lottery result.

[0192] Next, it judges whether an on-going (display) adjustable display game exists (Step S306). When it is judged that an on-going (display) adjustable display game does not exist, an adjustable display game is performed (Step S307). On the other hand, when it is judged that an on-going (display) adjustable display game exists next, it judges whether the sound which the effect of a binaural sound makes is outputted (Step S308). That is, when generating a great success state is determined as a result of the lottery processing mentioned above, the sound data which judge that CPU108 outputs the sound which the effect of a binaural sound makes, and are made to generate the sound which the effect of a binaural sound makes in Step

S310 mentioned later choose.

[0193] In addition, in this invention, in Step S308, even if it is the case where it is judged as a result of the lottery processing mentioned above that a great success state is not generated, it may be set up so that it may judge that the sound which the effect of a binaural sound makes is outputted. On the contrary, it may be set up so that it may judge that the sound which the effect of a binaural sound makes is not outputted even if it is the case where it is judged as a result of the lottery processing mentioned above that a great success state is generated. Necessarily, only when generating a great success state is determined, it is not necessary to judge that the sound which the effect of a binaural sound makes is outputted.

[0194] In Step S308, when it is judged that the sound which the effect of a binaural sound makes is not outputted, the lottery data determined in Step S305 are memorized to RAM112 (Step S309). The above-mentioned lottery data are data used in an adjustable display game manipulation routine, and internal lottery processing performed in Step S200 will be performed based on the above-mentioned lottery data.

[0195] When it is judged that the sound which the effect of a binaural sound makes is outputted in Step S308 on the other hand, the sound data used as the sound which the effect of a binaural sound makes are chosen (Step S310). That is, CPU108 chooses and reads the sound data used as the sound which the effect of a binaural sound makes from the sound data memorized by ROM110. And a correspondence number is generated from this sound data, and it transmits to a loudspeaker. Consequently, in an on-going adjustable display game, the sound which the effect of a binaural sound makes by the loudspeaker will be outputted. Then, the lottery data determined in Step S305 are memorized to RAM70 (Step S309).

[0196] Thus, in Step S306, when it is judged that an on-going (display) adjustable display game exists, judgment of Step S308 will not be caused how, but the adjustable display game from which the lottery data in Step S305 should be memorized and started by RAM112 at Step S309 will be suspended.

[0197] The sound data used as the sound which the effect of the binaural sound chosen in Step S310 makes here Like [ although not limited especially ] the sound data made to generate the sound which expresses the flapping of wings of the bee which approaches from the direction of a long distance, for example, and the sound data made to generate the sound showing the cry of the cat which approaches from the direction of a long distance When the great success state or the reach state has been approaching, it is desirable that it is sound data made to generate the sound which a game person can be made to recognize. Moreover, the sound data made to generate the sound which announces the reliability of great success beforehand, and the sound data made to generate the sound which announces the reliability of reach beforehand may be sound data used as different sound, and may be sound data used as the same sound.

[0198] In Step S304, when Step S307 or processing of S309 is performed when it is

judged that the game sphere is not contained in a starting mouth or next, it judges whether the game sphere passed the sphere passage detector (Step S311). This sphere passage detector is a picture portion corresponding to the sphere passage detectors 55a and 55b in the example shown in drawing 6 mentioned above, for example.

[0199] In this step S311, when a sphere passage detector is judged that the game sphere passed, as mentioned above, processing which usually indicates the pattern by change in display 52 is performed (Step S312). In addition, as mentioned above, when are indicated by change and it becomes [ at which the pattern usually stopped ] a predetermined pattern, the movable pieces 58a and 58b are driven, and the picture which can check the starting mouth 44 by looking so that it may be in an open state is displayed, and a game sphere tends to go into the starting mouth 44, and it is made to become it.

[0200] Next, it judges whether the game was completed or not (Step S313). Judgment whether the game was completed or not judges that the game ended them when only the time of detecting that the game person operated the input unit 102 that a game should be ended and the number with which the game sphere was defined beforehand judged having been discharged by the game face of a board. When it judges that the game is not completed, processing is returned to Step S301 mentioned above.

[0201] On the other hand, when it judges that the game was completed, the game result which shows the number of the discharged game spheres, the number of the repaid game spheres, etc., and the game end information which shows that the game was completed are transmitted to a server 80 (Step S314), and this sub routine is ended.

[0202] Drawing 17 is a flow chart which shows the sub routine which processes the adjustable display game called and performed in Step S307 mentioned above. In addition, the same sign was given to the step which carries out the same processing as the step of the flow chart shown in drawing 9 to the flow chart shown in drawing 17 .

[0203] The information which shows the purport by which first this sub routine was called and the execution start of the adjustable display game was carried out is transmitted to a server 80 (Step S61).

[0204] Next, the sound data made to generate the image data used as the picture of the change pattern which is the identification information picture needed in an adjustable display game, a background image, and a character picture, BGM, a sound effect, and voice, a control program, etc. are received from a server 80 (Step S62).

[0205] Subsequently, internal lottery processing by data processing of the terminal unit 100 for pachinko games or CPU108 of 140 is performed (Step S200). It is the processing set beforehand the combination of the pattern when this internal lottery processing indicating by halt all the patterns that belong to two or more groups by which it is indicated by change, and deciding a pattern, and CPU 108 carries out

processing with the change display of a pattern, and a halt display so that it may mention later, and a halt indication of the pattern may be given in a display 132 in the combination of the pattern defined by internal lottery processing.

[0206] Next, it judges whether the sound which the effect of a binaural sound makes is updated (Step S201). in addition, since the sound which the effect of a binaural sound set as the object of judgment makes will not exist when the sound which the effect of a binaural sound mentioned above makes in this adjustable display game is not outputted, the sound which the effect of a binaural sound always makes is updated, and judges that there is nothing

[0207] the sound which the effect of a binaural sound makes is outputted, and in Step S201, when it is judged that the sound which the effect of a binaural sound makes is updated, the new sound data used as the sound which the effect of a new binaural sound makes are chosen (Step S202) That is, CPU108 chooses and reads the new sound data used as the sound which the effect of a binaural sound makes from the sound data memorized by ROM112. And a correspondence number is generated from this sound data, and it transmits to a loudspeaker. Consequently, the sound which the effect of a different new binaural sound from the sound which the effect of the binaural sound currently outputted till then makes by the loudspeaker makes will be outputted.

[0208] [ whether it was judged that the sound which the effect of a binaural sound makes at Step S201 was not updated, and ] Or while the above-mentioned control program is performed and a background image is chosen by CPU108 based on the result after performing processing of Step S202 next While the screen configuration information of a background image is generated (Step S203) and a character picture is chosen, the screen configuration information of a character picture is generated (Step S204), and the screen configuration information of the change pattern which is identification information is generated (Step S205).

[0209] Next, it judges whether it is the timing which indicates the one change pattern by halt (Step S206). When a change pattern is judged to be the timing which indicates by halt, a change pattern picture is chosen by CPU108 in the mode which indicates the one change pattern by halt, and the screen configuration information of this change pattern picture is generated by RAM112 by it (Step S207).

[0210] And based on the generated screen configuration information, required image data is read among the above-mentioned image data which received in S62, and after considering as the image data displayed on a display 132, it is displayed on a display (Step S208).

[0211] By performing Steps S203-S208 mentioned above, the usual picture which consists of a background image or a character picture is displayed in the display 132 displayed on display 116.

[0212] Next, it judges whether it is the timing which stops the sound which the effect of a binaural sound makes (Step S209). in addition, in this adjustable display game, since the sound which the effect of a binaural sound set as the object of

judgment makes will not exist when the sound which the effect of a binaural sound mentioned above makes is not outputted, the sound which the effect of a binaural sound always makes is stopped -- it is judged that it is not timing

[0213] when it is judged that it is the timing which stops the sound which the effect of a binaural sound makes in Step S209, the program which stops the sound which the effect which is the binaural sound currently outputted from ROM110 makes is read by CPU108, and the sound which the effect of a binaural sound makes is stopped (Step S210) in addition, since the output of the sound which the effect of a binaural sound makes will be suspended after a predetermined period passes even if it does not process Steps S209 and S210 when the sound which the effect of a binaural sound makes by reading the sound data made to generate sound over a predetermined period is being outputted, the processing which are Steps S209 and S210 is omissible

[0214] In Step S211 mentioned later, processing of Steps S203-S210 mentioned above is repeatedly performed until it is judged that a halt indication of all the patterns belonging to two or more groups was given. By repeating and performing such processing, it can be displayed that the pattern can be indicated by change so that it may scroll in a predetermined mode, and a character picture also carries out predetermined operation.

[0215] Next, it judges whether a halt indication of all the patterns belonging to two or more combination was given (Step S211). When it judges that a halt indication of all the patterns belonging to two or more groups is not given, processing is returned to Step S203. When it is judged that a halt indication of all the patterns belonging to two or more groups was given in Step S211 on the other hand, it judges whether the lottery data which it means that the adjustable display game by one game sphere having gone into the starting mouth was completed, next were memorized by RAM112 exist (Step S212). Since the suspended adjustable display game will not exist when it is judged that the lottery data memorized by RAM112 do not exist, information is transmitted to a server 80 as a result of the information which shows the purport which the adjustable display game ended, and an adjustable display game (Step S64), and this sub routine is ended.

[0216] Since the suspended adjustable display game will exist when it is judged that the lottery data memorized by RAM112 exist in Step S212 on the other hand, the oldest lottery data are read among the lottery data memorized by RAM112 (Step S213), and processing is returned to Step S200. Then, in Step S200, CPU108 will perform internal lottery processing based on the read lottery data, and will repeat and perform processing of Steps S201-S211 based on the result of the internal lottery processing.

[0217] In addition, it is good also as performing it, before it performs processing of Step S213, after judging processing of Step S64 that the lottery data memorized by RAM112 exist in Step S212 mentioned above.

[0218] Drawing 18 is a flow chart which shows the sub routine performed in a server

80 corresponding to the terminal side manipulation routine performed in the terminal unit 100 for \*\*\*\* pachinko games shown in drawing 17 , or 140. The server 80 shall be started beforehand, and the sub routine shown in drawing 18 shall be called and performed from the main routine currently performed beforehand.

[0219] It judges whether the information which first shows the purport by which the adjustable display game was started in the terminal unit 100 for pachinko games or 140 was received (Step S71). When it judges that the information which shows the purport by which the adjustable display game was started is not received, this sub routine is ended immediately.

[0220] When it judges that the information which, on the other hand, shows the purport by which the adjustable display game was started was received, the picture of the change pattern which is the identification information picture needed in an adjustable display game, a background image, the sound data made to generate the image data used as a character picture and BGM, a sound effect, and voice, a control program, etc. are transmitted to the terminal unit 100 for pachinko games, or 140 (Step S72). This step S72 corresponds to processing of Step S62 shown in drawing 17 mentioned above. In addition, about the sound data made to generate the sound which the effect of a binaural sound makes, it is good in Step S72 also as transmitting to the terminal unit 100 for pachinko games, or 140. In this case, apart from the processing which judges whether the information which shows the purport by which the adjustable display game mentioned above was started was received, it sets to Step S71. When it judges whether the information which shows the purport by which the game was started in the terminal unit 100 for pachinko games or 140 was received and it is judged that the game was started, in Step S72, the sound data made to generate the sound which the effect of a binaural sound makes will be transmitted.

[0221] Next, it judges whether the information which shows the purport which ended the adjustable display game was received (Step S75). Processing of this step S75 is processing corresponding to processing of Step S64 of drawing 17 mentioned above. In Step S75, when it judges that the information which shows the purport which ended the adjustable display game is not received, processing is returned to Step S75. When it judges that the information which, on the other hand, shows the purport which ended the adjustable display game was received, this sub routine is ended.

[0222] In the display 132 displayed on the terminal unit 100 for pachinko games which is a terminal, or the display 116 of 140 when it considered as the composition mentioned above By outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times, when the suspended adjustable display game is started continuously The picture of the change pattern which is an identification information picture as the reliability of great success and/or the reliability of reach are announced beforehand, The image data used as a background image and a character picture, the sound data

made to generate the sound which the effect of a binaural sound makes, And a server 80 transmits a control program etc. to the terminal unit 100 for pachinko games, or 140, and a server 80 controls the terminal unit 100 for pachinko games which is a terminal, or 140.

[0223] When the adjustable display game suspended by considering as such composition is started continuously, the presence by the binaural sound can be given announcing beforehand the reliability of great success, and/or the reliability of reach to a game person by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times. Consequently, when the degree of expectation about the whereabouts of a game and the degree of excitement are raised and a game is becoming it a great success, without being able to perform a game and making a monotonous feeling and the malaise memorized to a game person, making relevance with the past game maintain, a game person can uplift a game person's feeling of fullness and feeling of achievement, and can aim at fast improvement in interest.

[0224] Moreover, since the reliability of a great success state and/or the reliability of a reach state announce beforehand over the period of the above-mentioned adjustable display game of multiple times with the sound which the effect of a binaural sound makes when the suspended adjustable display game is started continuously, a game person can recognize that a great success state and/or a reach state have been approaching certainly, even if it always does not continue gazing at the display of pachinko game equipment. Consequently, a game person can have allowance, can enjoy the tale developed in a production picture, and he can perform a game over a long time, without sensing tiredness while he can look at the change pattern and production picture which are relaxedly displayed on a display.

[0225] Moreover, when the picture of a change pattern, a background image, a character picture, its method of presentation, etc. are updated in a server 80, image data, a control program, etc. with the terminal unit 100 for pachinko games or 140 will be transmitted from a server 80. [ always new ] Therefore, the game person can enjoy the newest production screen in the terminal unit 100 for pachinko games, or 140.

[0226] The program for controlling a pachinko game by this invention, as explained using drawing 14 – drawing 17 , The terminal unit 100 for pachinko games or ROM110 of 140 is made to memorize the program for performing an adjustable display game beforehand. Although it is possible to consider as the composition which transmits suitably only various kinds of image data which is needed as a pachinko game advances, and sound data from a server 80 Furthermore, in this invention, a server 80 supplies various kinds of programs memorized by the storage of the hard disk drive 88 grade of a server 80 to the terminal unit 100 for pachinko games, or 140. It is possible to consider as the composition which performs the program supplied in the terminal unit 100 for pachinko games or 140.

[0227] Since the program and various kinds of image data for performing a pachinko



game are always transmitted from a server 80 before a game is started in the terminal unit 100 for pachinko games, or 140 when it considers as composition which was mentioned above, when a program and image data are updated in a server 80, the game person can always enjoy the newest game.

[0228] when it considers as such composition and the suspended adjustable display game is made to start continuously, the program to which the reliability of great success and/or the reliability of reach are made to announce beforehand is stored in the storage which is the hard disk drive 88 grade of a server 80 and in which computer reading is possible by making the sound which the effect of a binaural sound makes output over the period of the above-mentioned adjustable display game of multiple times

[0229] Moreover, it is also possible only for the game program which controls a pachinko game by this invention, and the program for performing an adjustable display game to be transmitted from a server 80, and to consider as the composition to which image data and sound data read suitably the image data which is beforehand memorized by the terminal unit 100 for pachinko games or ROM110 of 140, and is needed, and sound data from ROM110.

[0230] In the terminal unit 100 for pachinko games which is a terminal when it considers as such composition, or 140 By making the sound which the effect of a binaural sound makes output over the period of the above-mentioned adjustable display game of multiple times, when making the suspended adjustable display game start continuously The program to which the reliability of great success and/or the reliability of reach are made to announce beforehand is memorized by the storage which the hard disk drive 88 grade of a server 80 can computer read.

[0231] moreover, when an adjustable display game is started Since the control program for performing an adjustable display game is always downloaded, while a game person can enjoy the newest adjustable display game Although it is necessary to download neither about image data nor sound data therefore, in the terminal unit 100 for pachinko games, or the display 116 of 140, a production picture can be displayed promptly, and the sound according to the game situation can be promptly outputted from the loudspeaker 118.

[0232] Furthermore, it is also possible to consider as the composition a server 80 remembers programs, such as a program for controlling a pachinko game by this invention and a program for performing an adjustable display game, to be, and the terminal unit 100 for pachinko games or ROM110 of 140 remembers the image data which a pachinko game and an adjustable display game need to be. At this time, a server 80 performs advance of a pachinko game, the terminal unit 100 for pachinko games or 140 will choose a picture according to the control signal or control information transmitted according to advance of a pachinko game performed in the server 80, and the selected picture will be displayed on display 116.

[0233] When it considers as such composition and the suspended adjustable display game makes start continuously in the terminal unit 100 for pachinko games which is

a terminal, or 140, a server 80 controls the terminal unit 100 for pachinko games, or 140 to make the reliability of great success, and/or the reliability of reach announce beforehand by making the sound which the effect of a binaural sound makes output over the period of the above-mentioned adjustable display game of multiple times.

[0234] In addition, in the example shown in drawing 16 mentioned above – drawing 18, only in the display 132 displayed on the picture of the game machine which imitated the pachinko game equipment displayed on display 116, although the case where the picture of a change pattern, a background image, a character picture, etc. were displayed was shown, it is good also as displaying the picture of a change pattern, a background image, a character picture, etc. on the whole surface of display 116.

[0235] Moreover, it can judge whether the game person was provided with the production expression method concerning this invention which was mentioned above etc. by checking that the enjoyableness in a pachinko game is increasing. For example, the economical phenomenon of the store which adopted pachinko game equipment which was mentioned above prospering, and when being carried by the magazine etc., it becomes the phenomenon in which information permeates through media, such as becoming reputation, and will appear.

[0236]

[Effect of the Invention] When the suspended adjustable display game is started continuously according to this invention, the presence by the binaural sound can be given announcing beforehand the reliability of great success, and/or the reliability of reach to a game person by outputting the sound which the effect of a binaural sound makes over the period of the above-mentioned adjustable display game of multiple times. Consequently, when the degree of expectation about the whereabouts of a game and the degree of excitement are raised and a game is becoming it a great success, without being able to perform a game and making a monotonous feeling and the malaise memorized to a game person, making relevance with the past game maintain, a game person can uplift a game person's feeling of fullness and feeling of achievement, and can aim at fast improvement in interest.

[0237] Moreover, since the reliability of a great success state and/or the reliability of a reach state announce beforehand over the period of the above-mentioned adjustable display game of multiple times with the sound which the effect of a binaural sound makes when the suspended adjustable display game is started continuously, a game person can recognize that a great success state and/or a reach state have been approaching certainly, even if it always does not continue gazing at the display of pachinko game equipment. Consequently, a game person can have allowance, can enjoy the tale developed in a production picture, and he can perform a game over a long time, without sensing tiredness while he can look at the change pattern and production picture which are relaxedly displayed on a display.

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[Translation done.]

**\* NOTICES \***

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1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.\*\*\*\* shows the word which can not be translated.

3.In the drawings, any words are not translated.

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**DESCRIPTION OF DRAWINGS**

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[Brief Description of the Drawings]

[Drawing 1] It is explanatory drawing about a virtual source.

[Drawing 2] It is explanatory drawing about a virtual source.

[Drawing 3] It is explanatory drawing about a virtual source.

[Drawing 4] (a) is explanatory drawing about a parametric loudspeaker, (b) is drawing showing typically the frequency spectrum of the nonlinear interaction by the sine wave, and (c) is drawing showing typically the frequency spectrum of the nonlinear interaction by the amplitude modulation wave.

[Drawing 5] It is the front view showing the pachinko game equipment by this invention typically.

[Drawing 6] It is the expansion front view showing typically the game plate surface of the pachinko game equipment by this invention.

[Drawing 7] It is the block diagram showing the control circuit of the pachinko game equipment which is the example of this invention.

[Drawing 8] It is the flow chart which shows the sub routine of processing which detects the game sphere performed in pachinko game equipment.

[Drawing 9] It is the flow chart which shows the sub routine of the adjustable display game processing called and performed in Step S106 of the flow chart shown in drawing 8 .

[Drawing 10] It is drawing showing an example of the screen picture concerning this invention typically.

[Drawing 11] It is drawing showing an example of the screen picture concerning this invention typically.

[Drawing 12] It is the general-view view showing an example of the terminal for pachinko games.

[Drawing 13] It is the general-view view showing other examples of the terminal for pachinko games.

[Drawing 14] It is the block diagram showing the control circuit of the terminal unit

for pachinko games which is the example of this invention.

[Drawing 15] It is the block diagram showing the control circuit of the server which is the example of this invention.

[Drawing 16] It is the flow chart which shows the sub routine performed in the terminal unit 100 for pachinko games, or 140.

[Drawing 17] It is the flow chart which shows the sub routine which processes the adjustable display game performed in the terminal unit 100 for pachinko games, or 140.

[Drawing 18] In the server 80 which is the example of this invention, it is the flow chart which shows the sub routine performed.

[Description of Notations]

10 Pachinko Game Equipment (Game Machine)

32 Display (Display)

48 (48a, 48b) Loudspeaker

60 Control Circuit

66 CPU (Control Section)

64 Input/output Bus

68 ROM

70 RAM

80 Server

100 Terminal Unit for Pachinko Games (Terminal)

132 Display

140 Terminal Unit for Pachinko Games (Terminal)

201 (201a, 201b) Loudspeaker

500 Parametric Loudspeaker

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[Translation done.]

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1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.\*\*\*\* shows the word which can not be translated.

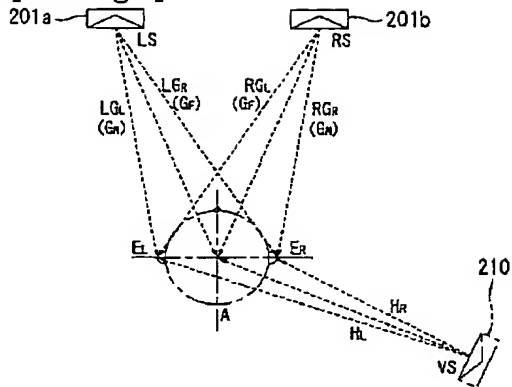
3.In the drawings, any words are not translated.

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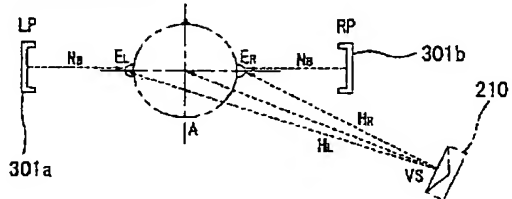
**DRAWINGS**

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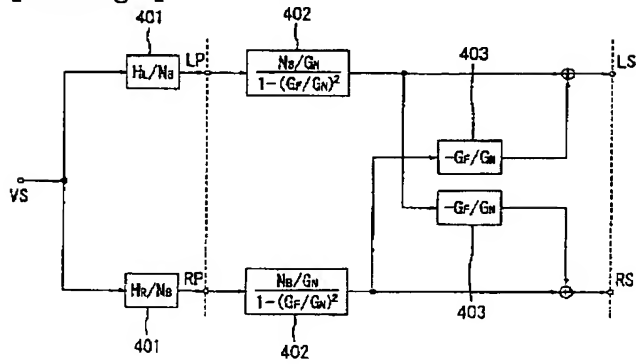
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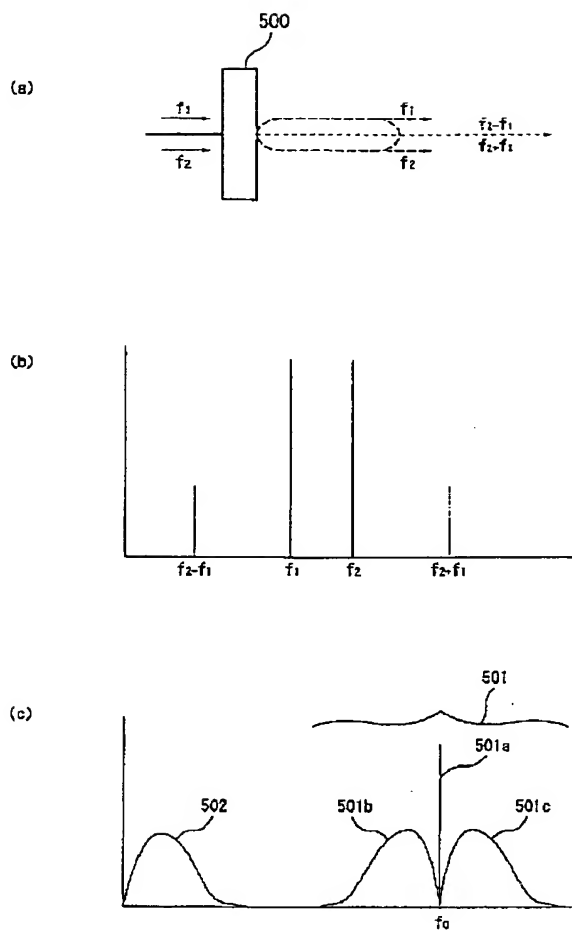
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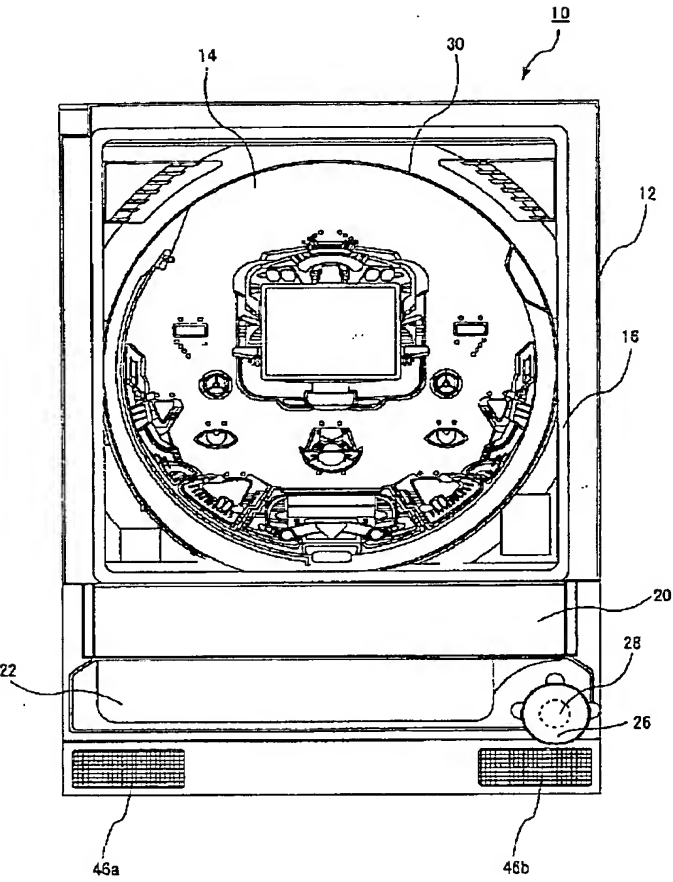
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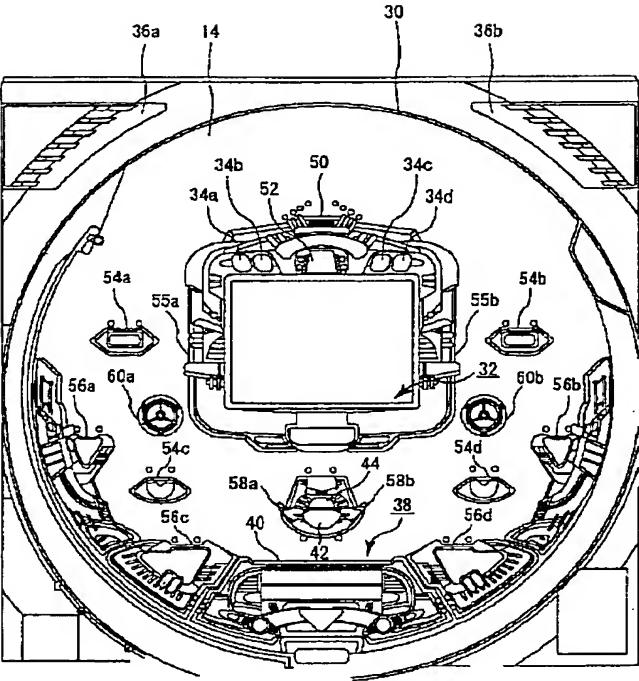
[Drawing 4]



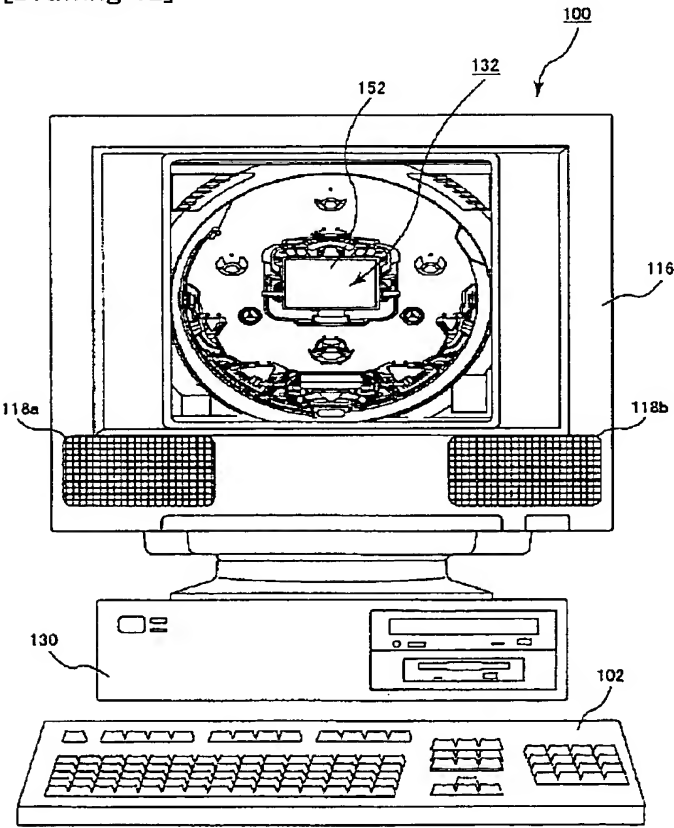
[Drawing 5]



[Drawing 6]

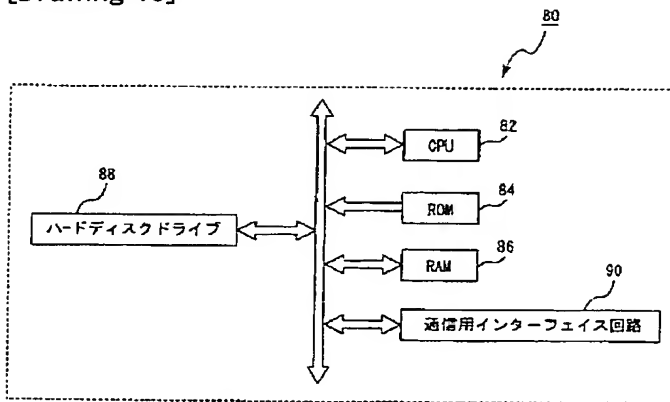


[Drawing 12]

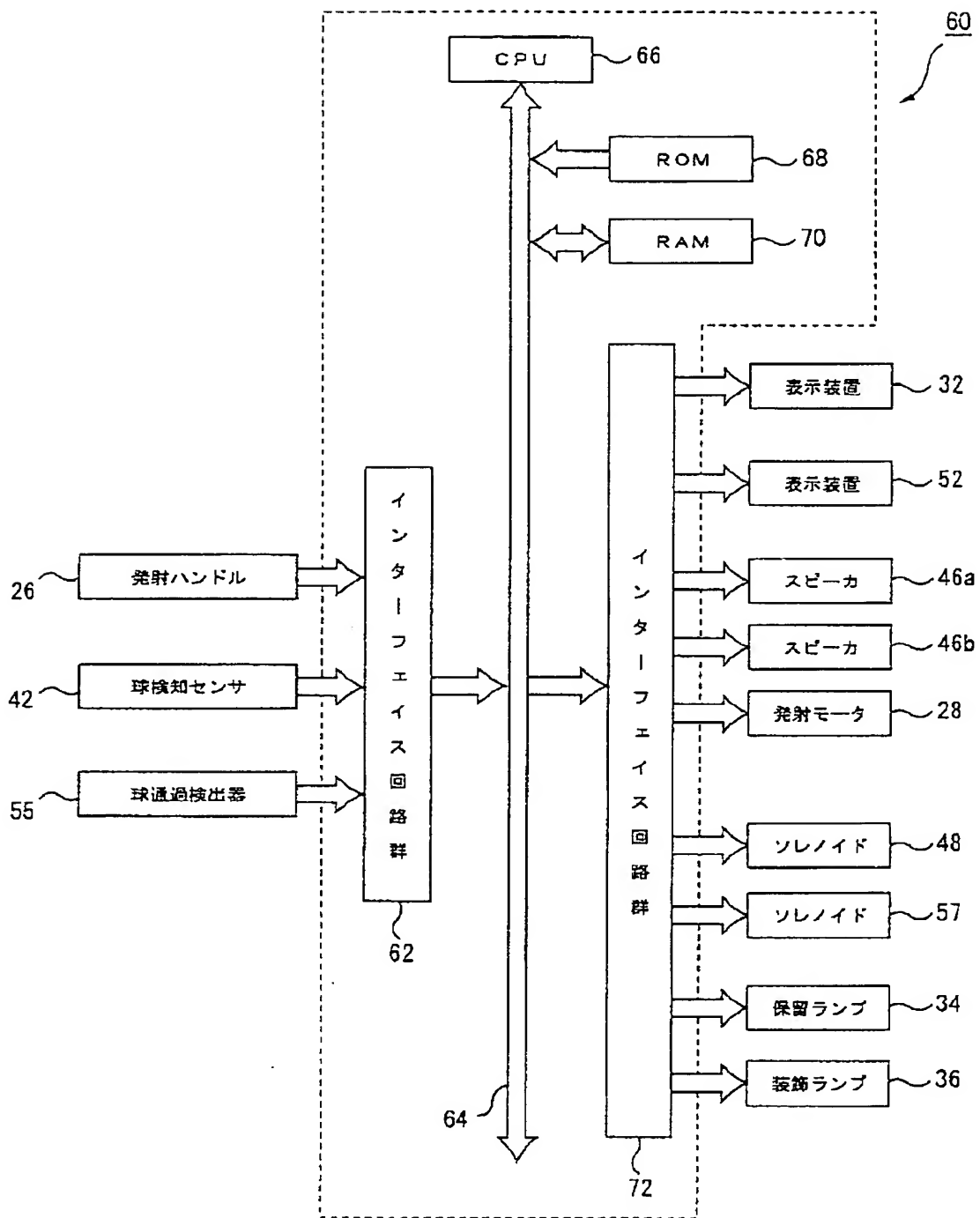




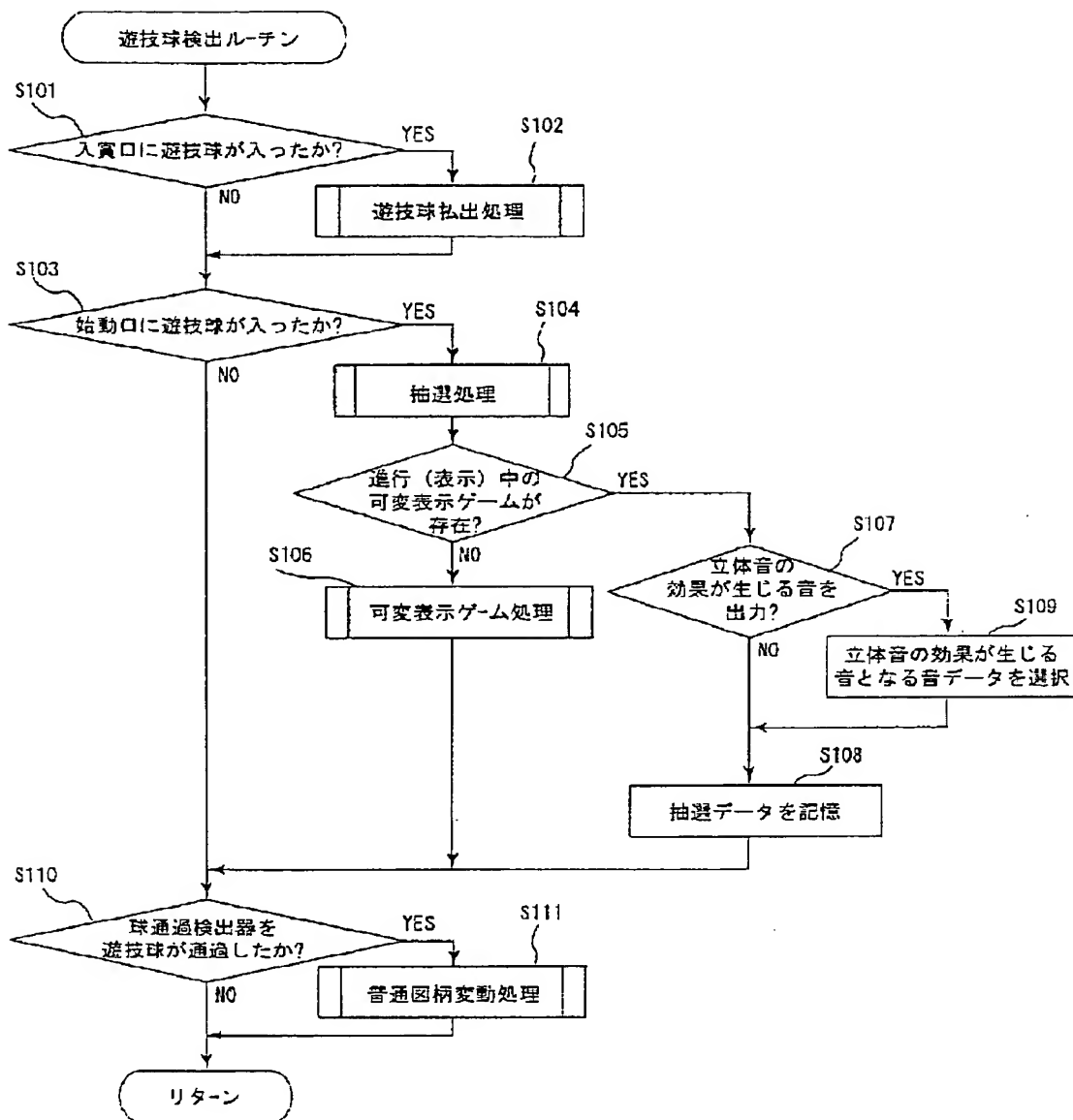
[Drawing 15]



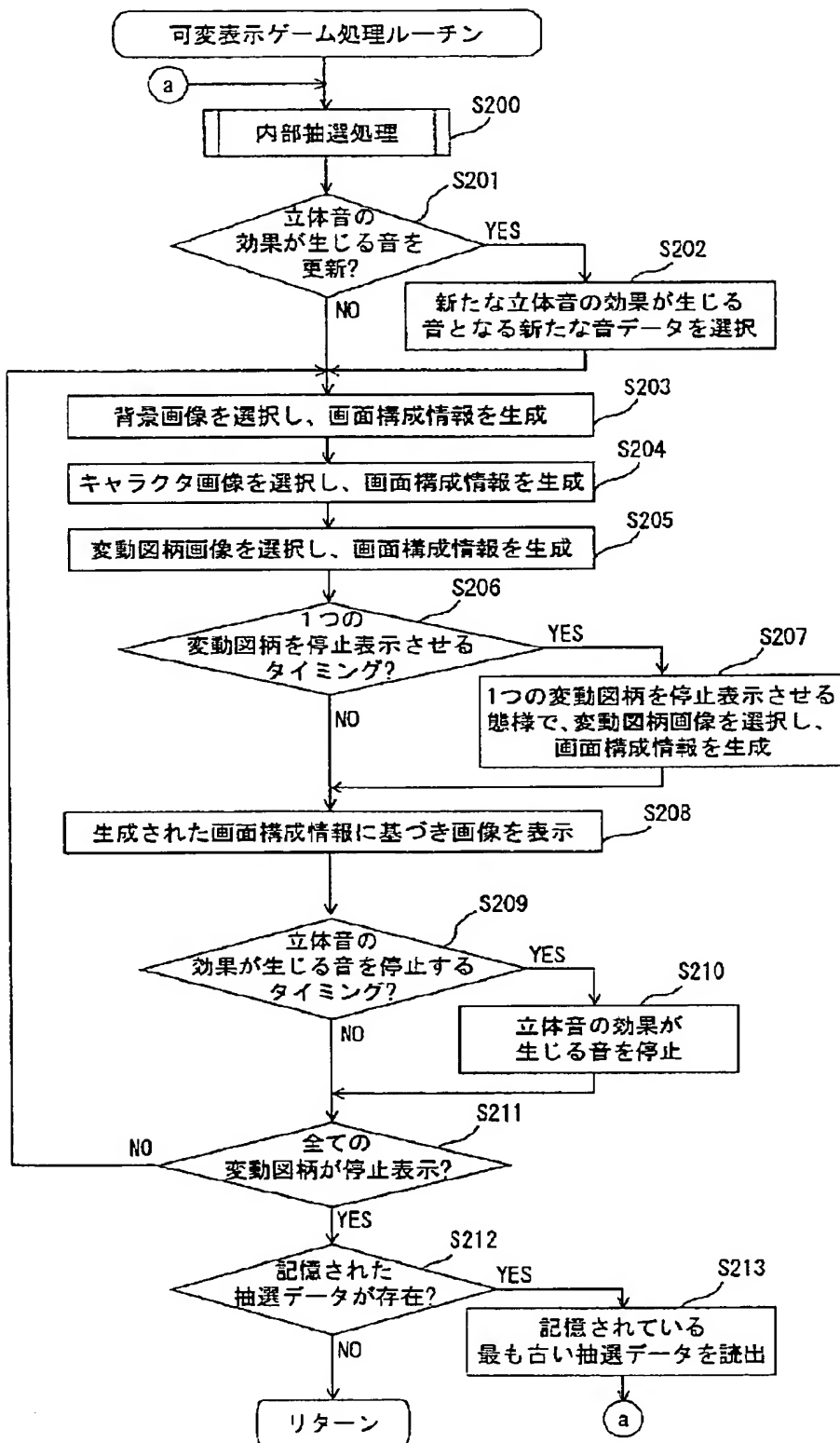
[Drawing 7]



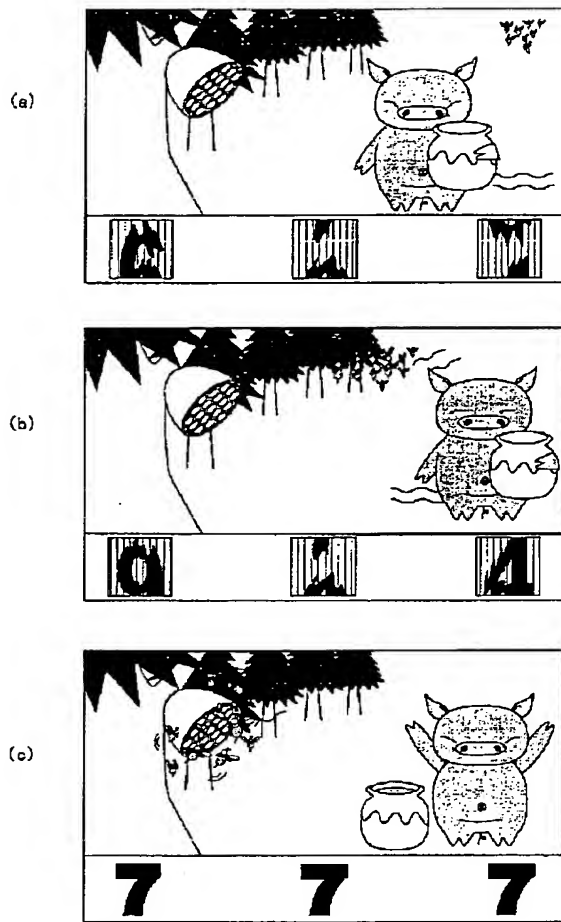
[Drawing 8]



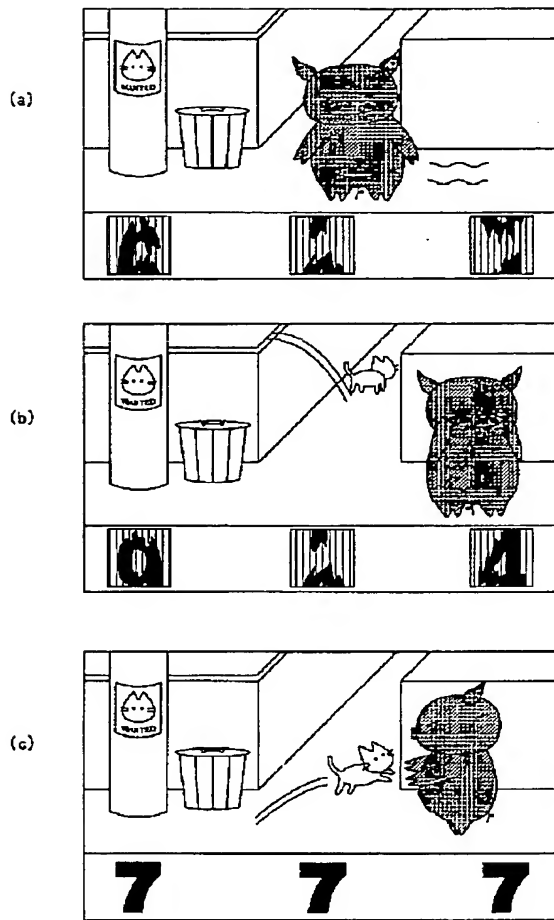
[Drawing 9]



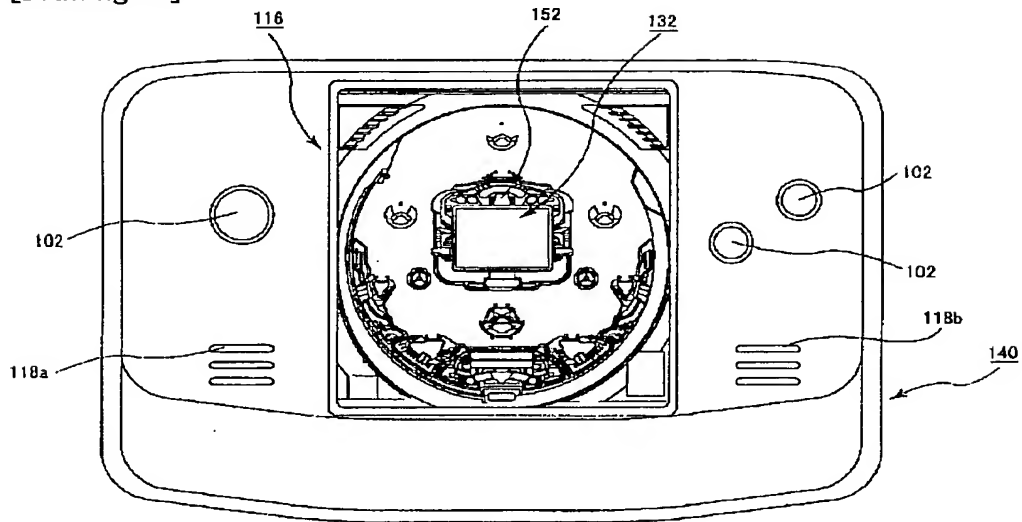
[Drawing 10]



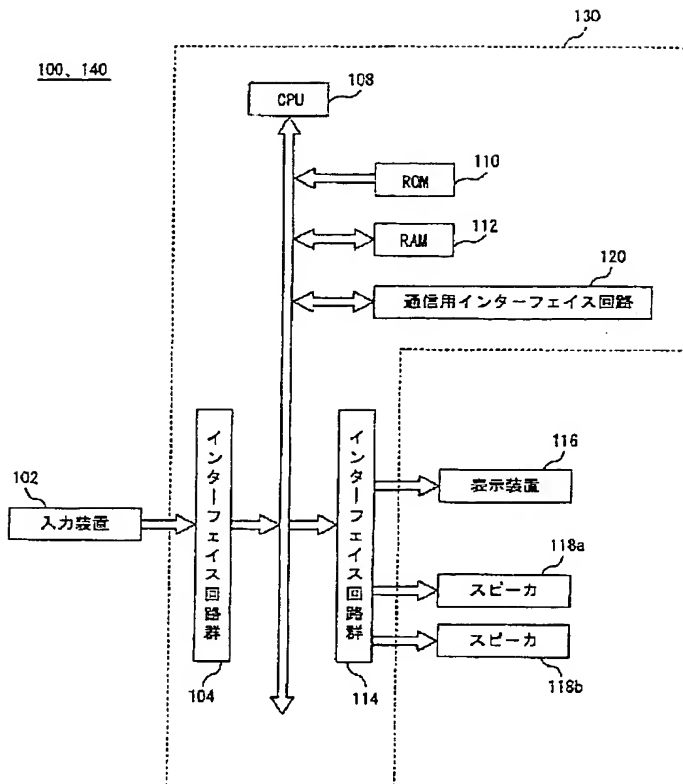
[Drawing 11]



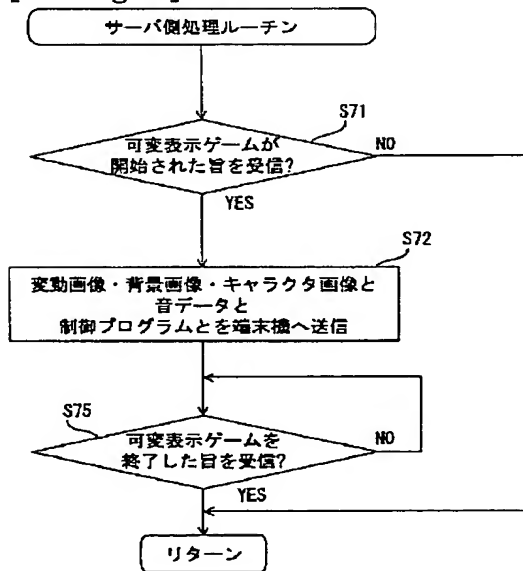
[Drawing 13]



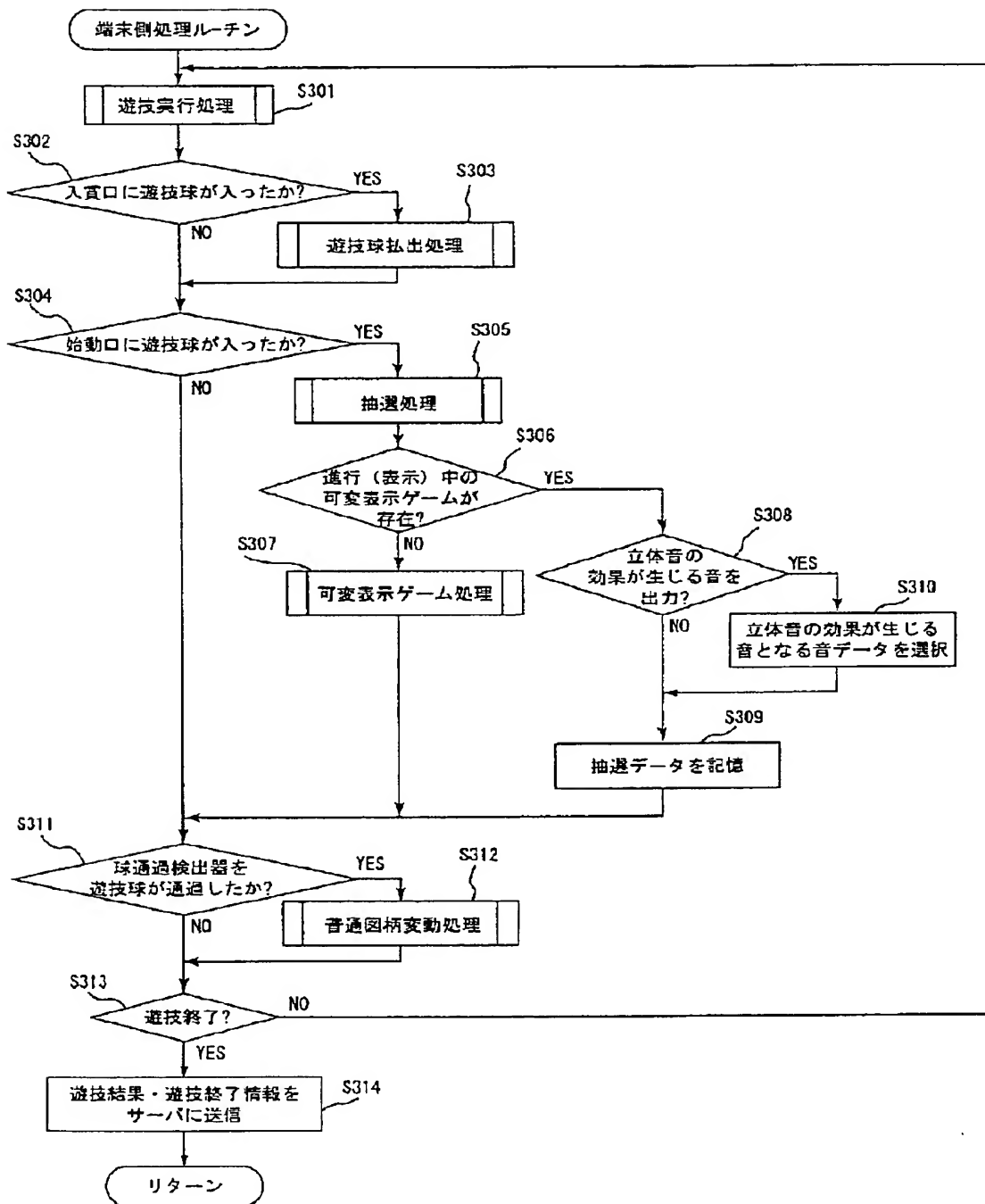
[Drawing 14]



[Drawing 18]

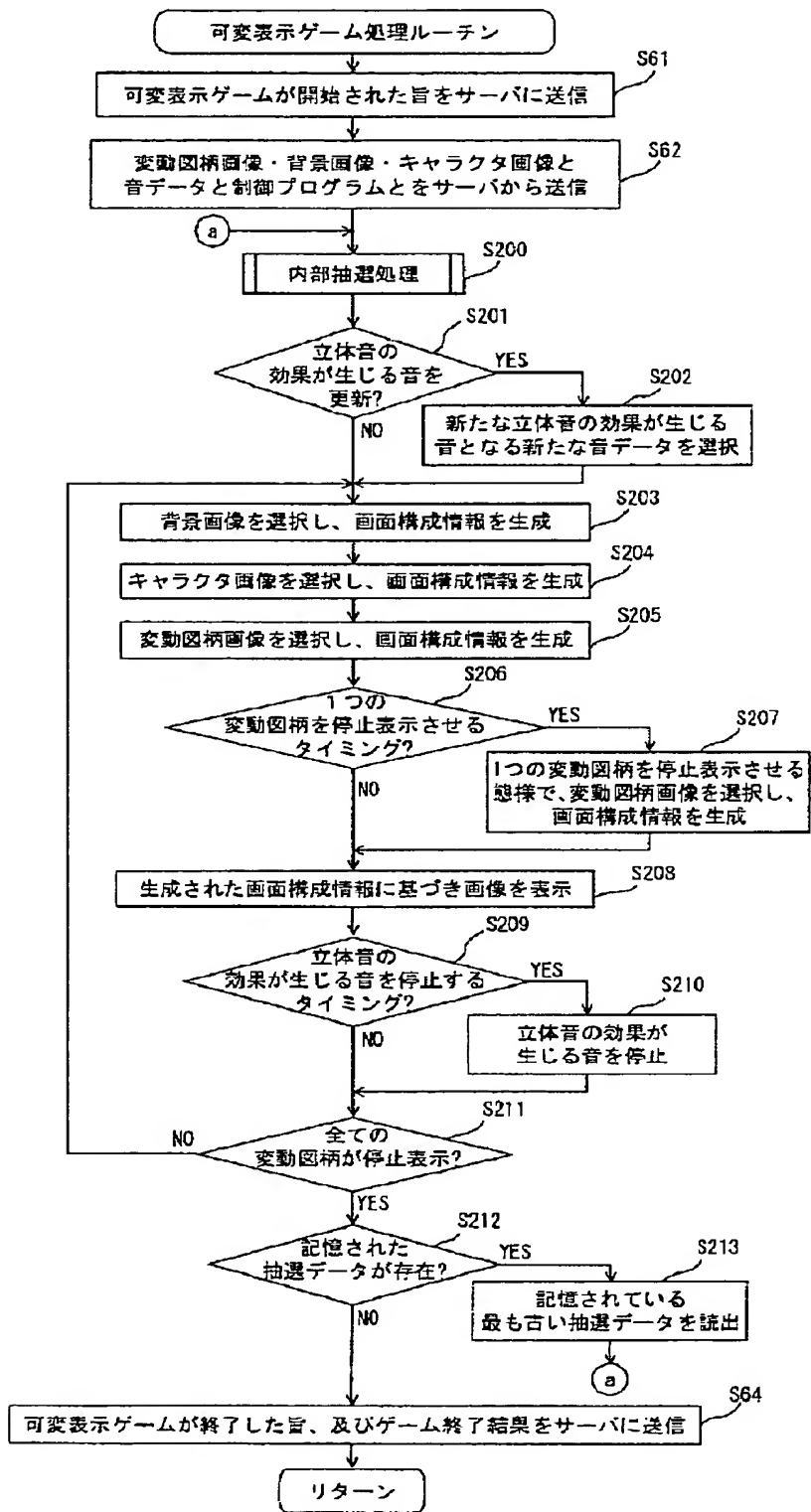


[Drawing 16]



[Drawing 17]





[Translation done.]